


*A PLAN for
The CITY of*

VANCOUVER

BRITISH COLUMBIA



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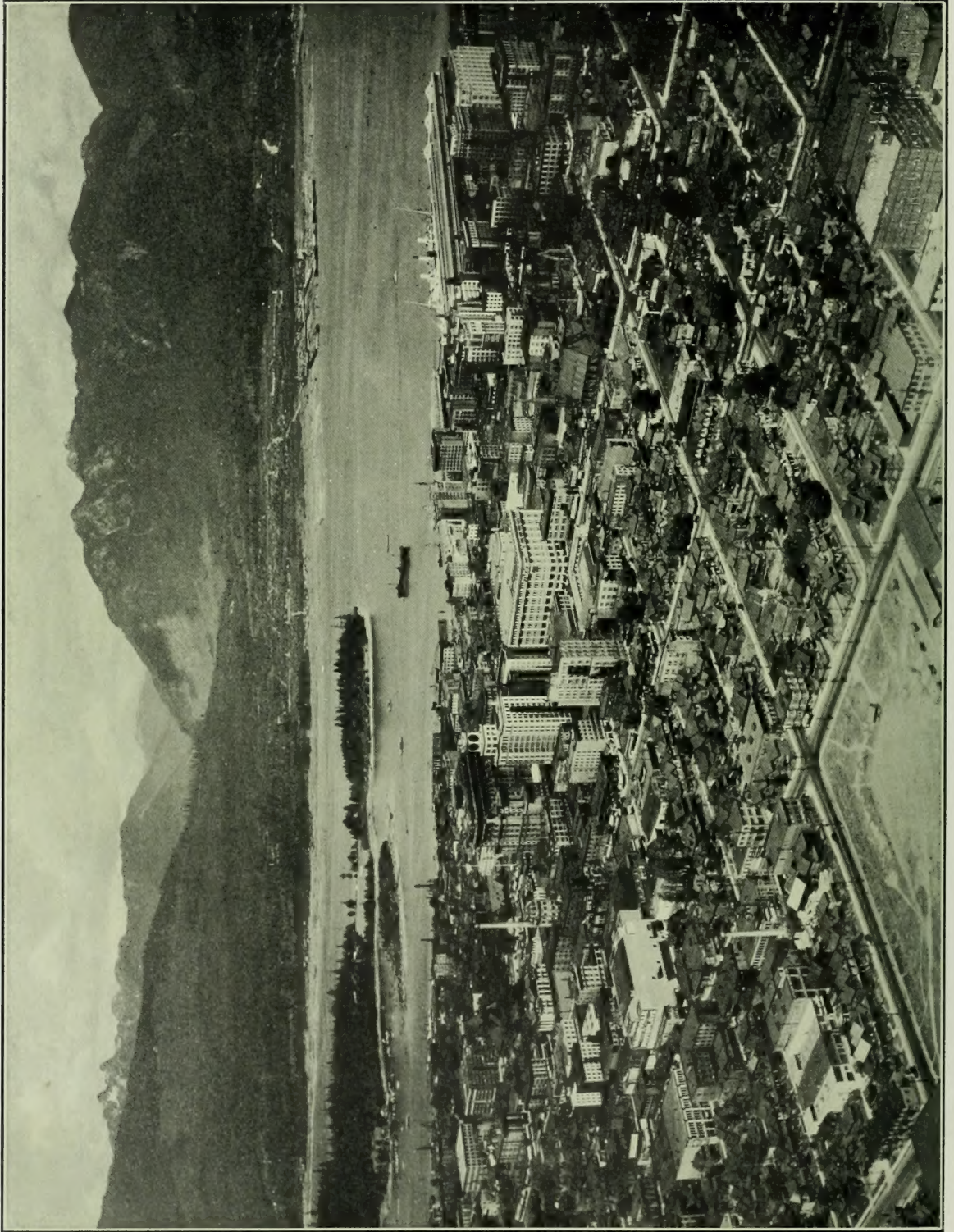
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1928



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WE MUST *make Plans;*
who looks not before,
finds himself behind."

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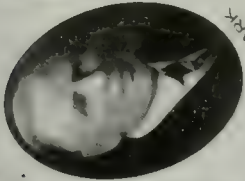


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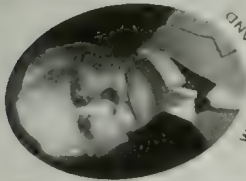
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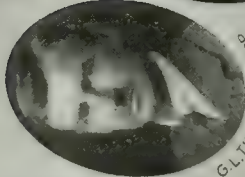
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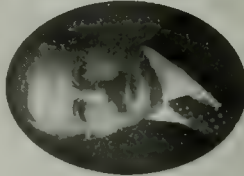
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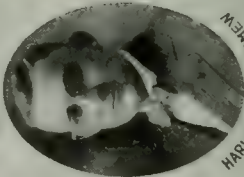
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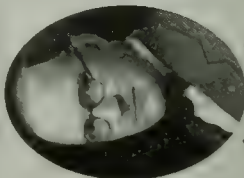
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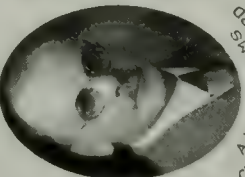
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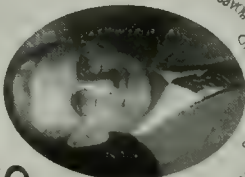
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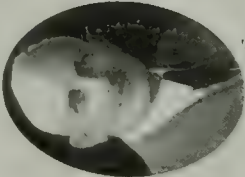
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317 NORTH ELEVENTH STREET

December 28, 1928.

Town Planning Commission,
Vancouver, B.C., Canada.

Gentlemen:

On August 2nd, 1926, we entered into an agreement for the preparation of a "Comprehensive Town Plan for the City of Vancouver and a Regional Plan of the contiguous or adjacent territory." It is with great pleasure we now submit such a Plan.

Few cities possess such a combination of nearby natural resources, a splendid harbour, a terrain ideally suited for urban use, an equable climate and a setting of great natural beauty.

Vancouver is the most important Pacific port of a great country. Here, if anywhere, should develop a great city. Circumstances of such character call for a city plan of substantial scale.

In the plan submitted herewith, a future growth of approximately one million persons has been anticipated. When that population has been reached, a new and larger plan will become necessary. A smaller plan would be unworthy, and, at best, a poor expedient. A larger plan would be more or less difficult for present adoption and realization.

This plan is complete in detail as regards the City of Vancouver. Under the auspices of the Municipality of Point Grey, a plan more or less complete in detail has been prepared and adopted for that area and is reproduced in part here.

It now becomes the duty of the Town Planning Commission to guard jealously the integrity of this plan, to make minor adjustments as detailed surveys and changing conditions make necessary, and to expand it into newly acquired areas such as that of South Vancouver.

The Burrard Peninsula is an area of natural physical unity. It should be developed as a unit. The arbitrary political boundaries and jurisdictions dividing it are apt to become responsible for physical maladjustments. The amalgamation of the Vancouver, Point Grey and South Vancouver districts on January 1st, 1929, despite administrative difficulties encountered, is fundamentally sound. The Town Planning Commission should solicit and encourage unification of planning in the remaining areas of the Peninsula, Burnaby and New Westminster, already anticipated in this plan in the form of regional studies of major highways, parks, parkways, transit and transportation.

The preparation of this plan has been a pleasant task. The uniform courtesy and consideration shown the members of our staff by the individual members of your Commission, the numerous city officials from whom we have secured detailed information and assistance, by public utility officials and the press, is gratefully acknowledged. Especially would we acknowledge the services of the several committees of the Commission, whose names appear upon another page. To these committees have been submitted our various preliminary reports. Under the wise guidance of the chairmen, and through the painstaking efforts of the individual members of these committees, the several preliminary plans have been studied, revised and welded into this final plan that is infinitely the better therefor.

The preparation of the plan has been a new experience for Vancouver. It has concentrated thought upon the great possibilities and opportunities confronting this city. May we be permitted to express the hope that this will be the beginning of a closer harmony of interest, thought, consideration and action among all those groups, which, collectively, have made the city what it now is and what it will become. It is men, and not plans, that make the city. Plans such as this are the means of bringing men's minds together for concerted action.

Respectfully submitted,

HARLAND BARTHOLOMEW AND ASSOCIATES,

Harland Bartholomew

VANCOUVER TOWN PLANNING COMMISSION

ERRATA

In the Commission's Report, "A Plan for the City of Vancouver, British Columbia," there are a few minor errors, chiefly typographical; the following, however, should be noted:

- Page 35, paragraph 7, line 3, read "Granville" for "Hastings."
- Page 39, paragraph 3, line 6, read "Chart 3" for "Chart 4."
- Page 44, Plate 7, "Twelfth Avenue," read "80-6" for "100-8," on plan.
- Page 54, caption, read "North and South Streets from West to East (South of False Creek)" for "East and West Streets from the Waterfront."
- Page 82, caption, read "East and West Streets (from North to South)" for "North and South Streets (from West to East)."
- Page 84, insert caption, "East and West Streets (from North to South)."
- Page 91, paragraph 8, line 5, read "page 133" for "page 123."
- Page 101, paragraph 1, line 2, read "page 114" for "page 60."
- Page 169, paragraph 4, line 2, read "MacDonald Park" for "Prince Edward Park" (name changed upon amalgamation).
- Page 169, paragraph 5, line 2, delete the words "Like Vancouver proper."
- Page 169, paragraph 6, tabulation under "Per Acre Valuation"—
For South Vancouver, "3320" read "3,300"
For Vancouver "2210" read "22,100"
- Page 173, paragraph 2, for lines 6 and 7, read "A modern elementary school of this size is incomplete without an adequate playground, serving all the recreational needs of the children of the district."
- Page 249, top of page, delete "Part III."
- Page 277, definition 8, line 3, read "meals" for "means."
- Page 278, definition 30, line 2, read "plates" for "places."

Kindly Insert This Slip in Your Copy of Report.

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INTRODUCTION

It is a fascinating and instructive enterprise to undertake the study of the evolution of a large city, and in older lands many romantic incidents and tales would be unfolded in the course of an investigation into a city's history. In the case of Vancouver, conditions are entirely different, for our researches are limited to a span of seventy years, which, naturally, divides itself into two phases, the former of which ended with the arrival of the Canadian Pacific Railway and the incorporation of the city in 1886, and the latter covering the whole material and industrial growth of the present flourishing city, which began within the memory of the present generation. This second period, however, will upon later examination be found to divide naturally into four stages in response to events which influenced and directed the city's growth.

EARLY HISTORY OF THE TOWNSITE.

It is proposed, in these introductory remarks, to briefly review the early history of the townsite and the growth of the city, to examine the forces which influenced and directed such growth, to note the emergence of the Town Planning idea and to attempt to project upon the screen some vision, however faint, of the city of the future.

The history of the townsite, which is bound up with that of Burrard Inlet, commences with the constitutional history of the mainland of British Columbia. The gold rush to the Cariboo in 1858 had attracted the attention of the Imperial authorities, and the mainland of British Columbia was organized as a separate colony and placed under the control of Sir James Douglas, who was already Governor of Vancouver Island.

The Imperial Privy Council has judicially made the following reference to the powers of the Governor: "As to his powers it may be said at once they were absolutely autocratic; he represented the Crown in every particular, and was, in fact, the law." Under his commission and instructions he was, with the aid of a detachment of the Royal Engineers under Colonel Moody, to select and survey lands in those parts of the Colony which might be eligible for settlement, to fix the conditions upon which land could be acquired by private individuals, to mark out allotments of land for public purposes, to select sites for the seat of government and for a seaport town.

Up to Douglas' appointment, as the Privy Council finds, "there were only indiscriminate squattings of adventurous settlers in a wild country," but under his rule a clear-cut programme was laid out. With the assistance of Col. Moody, New Westminster was settled upon as the capital of the colony, the former choice of Fort Langley having been abandoned for strategical reasons. For similar reasons naval and military reserves were laid out on Burrard Inlet to protect the rear of the capital, and others for the various purposes mentioned in the instructions.

Those that interest us most are Stanley Park, then known as Coal Peninsula, for military and defence purposes, the Granville Reserve lying between what are now Carrall and Burrard Streets and including Old Granville Townsite and D.I. 541, the Hastings Townsite Reserve, Central Park and Jericho Reserves and a reserve at the tip of Point Grey now included in the University Endowment Lands.

Viewed in the light of the Imperial instructions, the Granville Reserve was probably intended as a site for a seaport town, but the immediate connection between the capital and Burrard Inlet was created by laying out the old North Road, which ran from New Westminster to Burrard Inlet at what was later known as "Aliceville". The purpose of this road was to enable supplies to be brought into the capital and communications with the outside to be maintained in case of a blockade of the river.

The private acquisition of lands was immediately dealt with by Proclamation of the Governor, and unoccupied and unreserved lands could be staked and, when surveyed, purchased for 10 an acre. This price was afterwards found too high and was reduced to 4 2, the then equivalent of \$1.00. Prior to survey, conditions of residence were imposed and rights of pre-emption were also granted. A few years later provisions were made for timber leases.

LAND TAKEN UP.

Following upon this legislation private interests were not slow in taking action, and the lands upon Burrard Inlet which had not been reserved were early taken possession of and the Inlet became the scene of logging operations upon an extensive scale. Captain Stamp had been operating a mill on Vancouver Island and he very shortly moved the site of his operations to Burrard Inlet and built his mill on a location from which the Hastings Mill is just now being removed. Stamp had the promise of the timber upon Stanley Park, but his mill site was chosen on account of the available supply of fresh water which was derived from Trout Lake. A Crown Grant of D.L. 196 was issued to Stamp's company, The British Columbia and Vancouver Island Spar Lumber and Saw-mill Limited, on the 30th November 1865, and upon all old plans the portion adjoining the Inlet is shown as "The Hastings Mill Site".

The mill at Moodyville, across the Inlet, was erected about the same time and was operated by a marine engine taken from a dismantled navy sloop. It perpetuates the name, not, as is frequently supposed, of Col. Moody, but of Sewell Prescott Moody, one of the founders. Port Moody, though named after Col. Moody, was not an official enterprise but was laid out in 1880 on private lands Crown Granted in 1870.

Even before this, however, other lands had been Crown Granted and the names of the grantees are interesting, owing to their connection with the history of the country. District Lots 181, 182 and 183 were granted in October, 1863, and D.L. 184 in January, 1864. Robert Burnaby, who was an officer under Moody, became the owner of D.L. 181, and his name is perpetuated in that of the adjoining Municipality. D.L. 182 was granted to Henry Pering Pellew Crease, who was in the following year to become Attorney-General for Vancouver Island and to be later knighted for his services as first puisne Judge of British Columbia. These grants took up all the waterfront between Hastings and Granville Reserves, and the land between Granville Reserve and Stanley Park was granted in 1867 to Brighthouse, Hailstone & Morton, whose names are well known to modern real estate owners. These 550 acres cost them £114/11/8, or \$550.00.

Following upon the entry of British Columbia into Confederation in 1871, and the probability of railway development, the acquisition of land became active. The Hastings Mill had passed into the possession of Heatley & Campbell, who protected their water supply and probably some of their limits by acquiring D.L. 264A in 1872, and D.L. 195, which contains Trout Lake, in 1875. District Lot 192, which surrounds the present Tatlow Park, passed by Crown Grant to James Lowther Southey, a paymaster in the Royal Navy, and for some reason he had to pay the high price of 10 an acre for this land, but he more than trebled his money when he sold it two years later.

The names of well-known New Westminster men now appear upon the record, coupled with the names of a number of men who are described as belonging to Yale, showing that the ebb of the Gold Rush was to have an influence upon the future of Vancouver. Among these late acquisitions are D.L. 302, which went to John Alfred Webster in 1877, and District Lots 200A in 1871, and 301 in 1881 to Henry Valentine Edmonds, and D.L. 472 to Gordon Edward Corbould in 1883, which brings us down very closely to the completion of the construction of the Canadian Pacific Railway.

This also brings us to the conclusion of the era of the acquisition of public lands by private owners, and we will shortly enter upon the next stage, which is that of subdivision. In this matter of subdivision, the trail was blazed by the Colonial Government, which laid out Old Granville Townsite on part of the Granville Reserve lying between Carrall and Cambie Streets and running back to False Creek, the plan of which was prepared and a number of lots disposed of before the province entered Confederation in 1871. One of the first Crown Grants to be issued was that in the name of John Deighton, who received title on the 24th June, 1871, to Lot 1 in Block 2. This John Deighton was the proprietor of the Deighton Hotel, which was situated on this lot, and was the local character who was known as "Gassy Jack," and from him Old Granville Townsite obtained the name of Gastown. In 1875 a fringe of Hastings Townsite bordering on the Inlet was cut up into lots and some were sold, the earliest Crown Grant being dated in 1879.

ADVENT OF RAILWAY AND BIRTH OF CITY.

Meantime the construction of the Canadian Pacific Railway through the mountains was steadily progressing, and with its approach to the Coast the question of where its final terminus would be was the absorbing subject to all those in the province who were speculatively inclined. Under the Company's charter the line was supposed to end at Port Moody, but the Company claimed the right to construct branch lines and extensions and attempts were made to induce them to extend their line to Coal Harbour. At the present date it is hard to realize why any inducements should have been necessary, but they were, no doubt, in an advantageous position to bargain for terminals and a terminal townsite. Negotiations were opened by the Company not only with private owners but with the Government, and on Valentine's Day in 1885 a syndicate which then owned District Lots 181 and 196, except the West 85 acres, agreed to give to the Trustees of the Company a one-third interest in their holdings in consideration of the Company including these lands in their official townsite and constructing some of their docks on the waterfront of the property. D.L. 185 had been subdivided, and the plan creating the subdivision bears the prophetic name of the City of Liverpool. The owners of this land in September of the same year entered into a similar agreement with the Canadian Pacific Railway, which covered not only D.L. 185 but the western 85 acres of D.L. 196.

The Provincial Government had disposed of a number of lots in Old Granville Townsite, but the remainder of the reserve between Carrall Street and Burrard Street was undisposed of, as was also the large territory now comprised within D.L. 526. The Provincial Government were sufficiently interested to make an agreement with the Company in pursuance of which on the 13th February, 1886, all of what is now D.L. 541 and the unsold lots in Granville Townsite were conveyed to trustees for the Canadian Pacific Railway, who on the same day received a Crown Grant of D.L. 526, said to contain 5974 acres.

Meantime syndicates were acquiring interests in the land west of Hastings Reserve and were subdividing, and by the end of 1885 subdivision was completed by the filing by

the Canadian Pacific Railway Company of its official townsite plan, which included everything from Glen Drive (then known as Boundary Avenue) to Stanley Park. The unofficial townsite also included all the remaining lands lying west of Hastings Townsite, and when the city was incorporated the next year it included all the city we know north of 16th Avenue and between Hastings Townsite and Alma, which was the western boundary of the government townsite on the south shore of English Bay west of the Canadian Pacific Railway grant and known as D.L. 540.

There is one fact which students of the growth of the Vancouver town plan must remember at this stage. While reference has been made to the subdivision of all these lands, it must not be accepted that the townsite was actually surveyed. All these subdivisions were what is known as paper subdivisions, which were prepared by taking for granted that the original survey under which the Crown Grant was issued was correct and preparing a map according to scale which would fit into this envelope. There were no stakes, nor were any of the roads laid out on the ground. The only private subdivision which is an exception to this rule is District Lot 192.

On the 6th May, 1886, an Act incorporating the City of Vancouver was passed, but the infant city which had just been launched on its career received a set back when on the 13th June, 1886, within six weeks of its birth, it was overwhelmed by a bush fire. It was, however, rapidly rebuilt, and on 23rd May, 1887, the first through passenger train over the Canadian Pacific Railway steamed into the station at Vancouver, and from this point the city passed through the various stages common to all young and lusty infants.

EARLY ROADS.

Before referring to these stages, which have been frequently chronicled, and the history of which may be recovered from the files of the newspapers, it will serve our purpose to take a glance at the means of communication between the young city and the surrounding territory, with a special eye upon the influences which these existing highways have exercised upon the street system and the development of Vancouver.

We have seen that the North Road fulfilled its strategical function as a link between the capital and Burrard Inlet. This, however, terminated above the Second Narrows. Hastings Mill and Moodyville were the centre of a lumbering industry to serve which the Douglas Road was constructed, terminating at the little settlement of Hastings, where Maximilien Michaud had acquired three lots for \$50 each in 1869 and had a small hotel, the site of which was afterwards on Michaud's death in 1875 acquired by George Black, who had established a more modern hotel upon the adjoining grounds. Black's place soon became the centre of social and athletic life in the settlement.

The next road to be built formed a connection between Granville and the North Arm of the Fraser River. Leaving Gastown it followed an irregular course to where the old Main Street Bridge over False Creek stood and there it crossed False Creek by a pile bridge and followed the present route of Kingsway to Fraser Avenue, which in turn it followed to the North Arm, Fraser Avenue then being known as the North Arm Road. In the late seventies a trail, known as the False Creek Trail, left the Douglas Road a short distance outside of New Westminster, and connected up with the North Arm Road. This trail was superseded by the present Kingsway, the survey for which was made in 1883 by Joseph Hunter, who later built the E. & N. Railway.

There was no lateral connection along the shores of Burrard Inlet. The earliest attempt was a two-plank sidewalk between Gastown and the Hastings Mill, and this was afterwards extended into a road from Granville to Hastings Townsite. There were a number

of logging roads both in the Vancouver Peninsula and in the large Point Grey Peninsula, but from Gastown all connections were made by boat. A scow equipped with a threshing engine and plying to Moodyville was the flagboat of the fleet, and went by the name of the "Sudden Jerk".

From these beginnings the Major Street system of Greater Vancouver developed and in the future history of Vancouver, Kingsway with Fraser Avenue and the Douglas Road are bound to play an important part, for they provided valuable diagonals. The subdivision history of the region is responsible for many of the jogs and dead-ends which exist, and for all the heavy grades, which no engineer would have adopted if he had surveyed the highways upon the ground.

NOW A CITY.

The townsite now enters upon the second period of its history, and the city upon the first stage of its growth. It had been rapidly rebuilt after the fire and the first business centre was created at Cordova and Carrall Streets, the original location of Gastown. Owing to the narrow depth at this location it was obvious that the city would have to grow either east or west, and the railway influence decided this question, for the centre shifted towards Hastings and Granville Streets, and by the time the city was five years old the centre had already moved to Cambie Street and business was stretching along Hastings Street and up Granville Street. The seaport of the city was growing, and the year 1891 saw the establishment of the first line of Empresses opening up a regular schedule to China and Japan.

A comparative lull followed the first real estate speculation, but the city continued to grow, and its population equalled and then passed that of New Westminster and then of Victoria, and in retrospect we find that the city's first twenty years were passed as a growing railway terminal and a provincial distributing point, aided by the mining development of the Kootenays and the lumbering and fishing of the coast. The Klondyke rush revived a sagging business and carried the city until the next stage.

This second stage was featured by the influence exerted by the prosperity and filling up of the prairie provinces, which was first felt to any great extent about 1905, and was accompanied by a reasonable activity in building and by a moderate rise in real estate values. It was, however, closely followed by the third stage, which ushered in an era of rather extravagant speculation, during which the future of the city was somewhat discounted.

This third stage, and the spirit of optimism which characterized it, was dominated and induced by an anticipation of the benefits which Vancouver would derive from the completion of the Panama Canal. While it lasted the city's population passed the one hundred thousand mark and the effect of an increasing population, which spread into the suburbs, caused the centre of the city to shift along Hastings Street and up Granville, where it has now become firmly fixed. By 1913 the boom had collapsed and the realization of the hopes of its promoters was postponed by the depressing effect of the war period which followed.

That there was ground for optimism is shown by the fact that during the ten or twelve years following the height of the boom in 1912, Vancouver laid solid foundations for future prosperity. During these years her manufactures, industries, payroll and products increased between nine and ten fold, with port and railway development keeping pace, so that Vancouver was able to take advantage at the conclusion of the war of the fields that had been opened by the construction of the Panama Canal.

The fourth and last stage of the city's development unfolded itself about the year 1923, when the disturbances created by the war had been adjusted, and was marked by the establishment and equipping of Vancouver as a grain shipping port. This close contact with the Prairie provinces has had a wonderfully beneficial effect upon the financial, commercial and industrial standing of the city as shown by the fact that Vancouver has made continual progress in the direction of all these branches.

This progress has been so emphatic that the old boundaries of the city became too small, and we have just witnessed the absorption by the old city of the two suburbs of Point Grey and South Vancouver, whose interests at no time failed to be identified with those of the business city, and the new city starts its life with a population of 230,000 and with splendid prospects for the future.

WHAT OF A CITY PLAN?

In this brief summary of the city's life, it will be noted that no mention has been made of any human foresight having been exercised in the control or direction of the growth of this British Columbia metropolis. Its history is that of Topsy, it just grew. It has been noted that the centre of the business district is located in the neighborhood of Georgia and Granville Streets and studies have shown that the peninsula, of which this forms the centre, contains sufficient area to accommodate a central business district for a population of a million and a half to two million people, but there is nothing to indicate that this happy condition was the result of any foresight on the part of the people who built the city. Neither was any foresight displayed in preparing the ground to accommodate the city. It is only within the last four or five years that people began to strive to form an idea of Vancouver as a unit and to study the layout of the city with the intention of forming an opinion as to whether the structure is fitted to adequately carry out the function of a metropolitan centre.

It is true that a few "visionaries" (may Allah grant us more men of vision) over a considerable period had been trying to satisfy themselves as to what the plan of Vancouver should be, and it remained for the Vancouver Branch of the Town Planning Institute of Canada to crystallize this sentiment into a desire for the creation of a body to plan for and co-ordinate the growth of the city. If, however, the prospect looked unpromising in the early stages of the endeavours of these enthusiasts, the later history of the movement has more than compensated for an early disappointment. As a result of the efforts of these workers, a sub-committee of the City Council, augmented by outside members, was functioning during the year 1925, and through their efforts a Town Planning Act was passed in December of that year. The present Commission was appointed in the following March, and the firm of Harland Bartholomew and Associates retained as its consultants by August. The work of Town Planning then proceeded apace under the local direction of Mr. Horace L. Seymour, an experienced Canadian Town Planner, who filled the position of resident engineer for the technical advisers of the Commission.

The following pages embody a town plan for the City of Vancouver and the reports and recommendations for the various phases of this plan, which the planning engineers have prepared and which have received the endorsement of the Commission.

WHAT OF THE FUTURE CITY?

The present report will conclude the first stage of the Commission's work and the future of the greater city will, to a large extent, depend upon the quality of the work as embodied in these reports and upon its acceptance by the citizens at large. If the con-

clusions reached and the plans proposed in this report are sound, and are grasped and efficiently followed out by those having charge of the executive government of the city, we may hope to see a Vancouver in which every acre of ground is devoted to its most appropriate purpose, and where, by reason of the foresight shown, the cost of creating facilities for shipping, commerce and industry and making due provision to satisfy recreational demands, will have been brought within the financial capacity of the community.

A few years ago it would have been very difficult to look upon the City of Vancouver as an organized entity adapted to function in all the departments incidental to life in a modern city, and it would have been very difficult to prepare a forecast as to what form the city of the future would take and as to the purposes to which any part of the territory constituting the city would be devoted. Today, however, with a town plan before us, it is possible to anticipate the trend of development of this great city and to foresee the direction of its growth.

When we arrange our material and proceed to compose our picture of the city to be, we must at the outset remember that first and foremost Vancouver is a great seaport and that, all other things aside, her growth will depend upon her development as a port and as the main link between the whole of Canada and that portion of the world which may be reached by the Pacific Ocean. But is there not something more than this one respect in which Vancouver is unique? It is suggested that, scanning the world over, it would be hard to find a city which, in addition to being practically the sole ocean port of half a continent, inhabited by a progressive and increasing population, has on its outskirts a river valley with great agricultural possibilities, with a hinterland rich in minerals, lumber and raw materials for manufacture, and adjoining at the moderate distance of five hundred miles the greatest granary of the world. Can any city claim an equal situation?

After a study of the plans of the harbour development in which Burrard Inlet, the Fraser River and False Creek are each to be regarded as having an appropriate share, the conclusion can fairly be drawn that no city has a finer opportunity for affording all the services to commerce which could be called for from a great port. We will, accordingly, expect to see the development of Burrard Inlet up to the Second Narrows as a deep sea shipping harbour, with deep sea and industrial development on the North Shore, and also along the margins of the fresh water harbour which will be created by a dam at the Second Narrows. We will also expect to see the banks of the Fraser River and Lulu Island lined with heavy industrial plants adequately served by railway trackage, and we see False Creek devoted to the many lighter industries which require railway and water communication and which would turn these tide flats, at one time considered a detriment to the growth of Vancouver, into one of the city's most valuable and productive assets.

In addition to industries located on False Creek, there are a number of sites on the Fraser River and on the shores of Burrard Inlet where industries could flourish, and we would hope and expect to see these appropriate spaces developed to their fullest extent. In regard to the commercial growth of Vancouver, the central business district will accommodate the most important retail shops, offices and financial houses, hotels and theatres. The construction of the Distributor Street and the absence of skyscrapers will spread business evenly over the area and prevent undue traffic congestion. Of course retail business will not be confined to this district, and with the development of a fairly dense residential population in the area between the central city and the Fraser River, local commercial districts will spring up as, for instance, on Broadway, and with the foresight which has been exercised we will see a Vancouver in which residences are con-

tiguous to business districts and still enjoy the amenity which can only be obtained by adoption of the principle of zoning, an important element of the town plan.

In these days, when apartment houses are so much in demand, Vancouver in the future should be deemed very fortunate in the possession of an apartment district west of Burrard Street which, while contiguous to business, has also the desiderata of a residential district, due to its proximity to Stanley Park and the foreshore of English Bay. The wise foresight which Point Grey has used in planning at an early stage of its growth should provide Vancouver with one of the most desirable residential districts possessed by any city on the Continent, and those who have to gain their livelihood by manual labor should find in Hastings Townsite, and in a replanned South Vancouver, a place where they can build up modest homes which should differ only in size from that of the more opulent employers. The retention of Vancouver as a city of single family homes has always been close to the heart of those engaged in the preparation of this plan.

This being a picture of the conditions surrounding the individual citizens, how does the community which they compose express itself through its public buildings and the provision it makes for community business and happiness? In a city of the not too distant future we vision a civic centre on a location which would be unequalled in America and where both the administrative and the cultural activities of city life are performed under ideal conditions, and in the growth of the city in population we see an expansion of the general horizon of the citizen and the creation of a civic pride which would not be affected by local considerations, and then, lastly, but by no means least, do we look forward to Vancouver as a bright and happy city and realize that this result will be achieved largely by the aid given by the plan to the preservation of the Kitsilano Reserve and of the bathing beaches and scenic waterfront and the construction of a system of parks and driveways which have always been desirable but which, in these days of rapid communication, are essential in order to satisfy the recreational desires of a healthy and vigorous community. All visitors to Vancouver have hitherto laid great stress upon its magnificent surroundings, but it is the hope of the Town Planning Commission that when these plans are carried out the resident of Vancouver may be able to point out that he has taken full advantage of the bountiful provision of Nature, and that Vancouver as an attractive city is worthy of its surroundings.

ARTHUR G. SMITH,
Chairman.

MAJOR STREETS

INTRODUCTORY.

In entering upon the task of preparing a Major Street Plan for the City of Vancouver correlated to a similar though less detailed plan of the region which surrounds it, and of which the business centre of the City of Vancouver is the focus, it is necessary to obtain a comprehensive view of the terrain and topography and to study the history of its physical development, the growth of population and its distribution over the area and to draw certain deductions as to what development and growth may be expected within that period of time for which it is reasonably possible to plan.

There is, accordingly, shown in logical sequence the results of the studies which have been made and a summary of the information which it is necessary to carry in mind as constituting the conditions which are today operative in influencing future development.

There follows, in due course, a brief description of Vancouver, with some reference to the history of its development and the conclusions which have been reached as to what the future has in store. In support of these conclusions, there is set out in tabulated or graphic form with running commentaries an estimate as to population during the next thirty-five (35) years, fortified by statements of building construction, the distribution of paved streets and public utilities and the areas served thereby. This is followed by a consideration of the points of origin of traffic passing from or through the region and desirous of entering the city street system, and by studies relating to the present volume of traffic.

Standards are established which give due recognition to present economy while, at the same time, meeting facts squarely and not permitting the whole object of Town Planning to be defeated by not paying sufficient attention to the future.

Vancouver of the present is judged in accordance with these standards and attention drawn to streets of excessive grades, insufficient width and poor alignment and to the lack of sufficient radial thoroughfares, and to those points in the street system that are of present advantage and which will be of advantage in the future.

Suggestions as to land subdivision, together with appropriate regulations, will be found in the appendices.

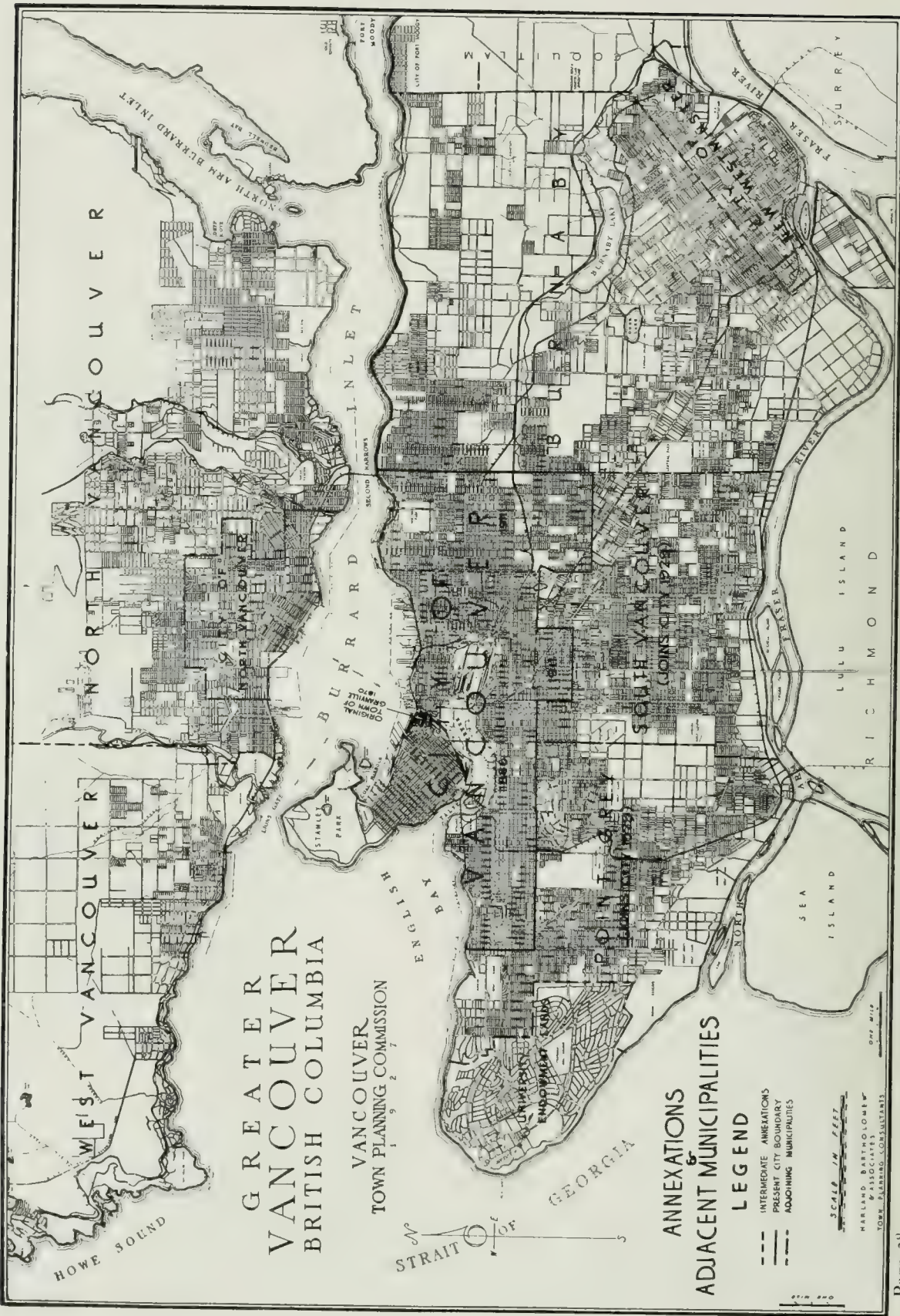
The illustrations accompanying this Report are reductions of large plans on file in the office of the Vancouver Town Planning Commission.

THE GROWTH OF VANCOUVER.

(PLATE 2)

On Plate 2 is shown the area commonly known as Greater Vancouver. It consists of the peninsula of land lying between the Fraser River and Burrard Inlet, known as the Burrard Peninsula, and the more gentle habitable slopes on the north shore of Burrard Inlet.

The peninsula contains approximately eighty-eight (88) square miles. It is an area of rolling terrain admirably suited for the site of a great city. Burrard Inlet is a natural harbour of unusual quality with numerous adjacent level lands available for port and industrial use.





Vancouver in 1808. From an Old Lithograph.

The original town of Granville, as registered in 1870, comprised six blocks. In 1886 the city was incorporated and there were included in the city limits some 6,750 acres, and there has since been only one annexation. In the year 1911, D.L. 301, now known as Ward 8, an area of some 350 acres, and Hastings Township, with an area of some 2,950 acres, were taken into the city. The city limits have always included the western peninsula known as Stanley Park, with an area of approximately 1,000 acres, the total area for the city (1928) being given officially as 10,547.2 acres.

The City of Vancouver proper had, accordingly, an area of 16.5 square miles, which was, in comparison with other cities of equal importance, a very small area.

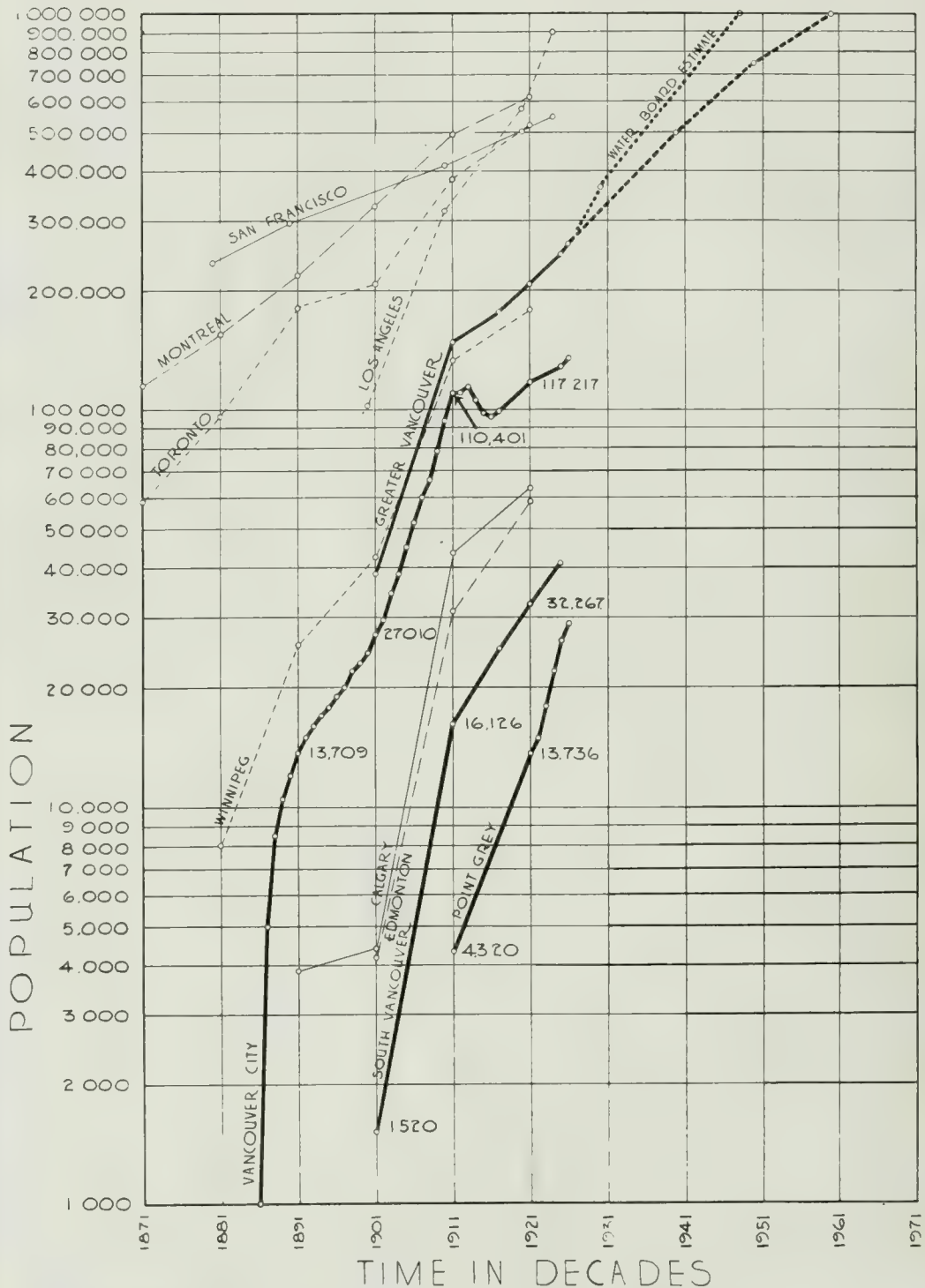
Amalgamation with the Municipalities of Point Grey and South Vancouver gives an area to the new city (1929) of about forty-five square miles, comparable with Toronto's forty square miles and Montreal's fifty square miles.

POPULATION.

(Chart 1, Page 30).

The figures shown in the Population Growth Chart are official census returns, supplemented for the years 1917-1925 by the figures compiled by the Inspector of Municipalities of British Columbia. Other intermediate figures shown for Vancouver for the years 1886 to 1926 are taken from the Vancouver City Directory estimate, which gave Greater Vancouver in 1925 a population of 250,000.

An analysis of the population growth chart supports the fact that the early population was, except for New Westminster, largely within the limits of the City of Vancouver,



VANCOUVER
TOWN PLANNING COMMISSION
1927

POPULATION GROWTH GREATER VANCOUVER

HARLAND BARTHOLOMEW
& ASSOCIATES
TOWN PLANNING CONSULTANTS

extending soon to South Vancouver and other Municipalities, until, at the present, (1928) there is approximately as great a population outside as inside the city. To give a better idea of growth in the Greater Vancouver area, the curve of the city in 1891 might be joined with the curve for Greater Vancouver in 1901.

An estimate of the future population growth of Greater Vancouver has been made by the Water Board. Mr. E. A. Cleveland, Chief Commissioner of the Greater Vancouver Water District, states as follows:

“Beginning with 1925, the actual number of water services in the area in question was 55,372. The population, on a basis of 4.5 persons per service, would, at that rate, be 249,174. The population of the area at the end of 1925, based on other data, was, as nearly as we could determine, 250,000. Assuming, then, an 8% increase of population compounded annually until the end of 1930, we would arrive at a population of 366,170. Decreasing the annual rate to 6% thereafter, the population arrived at would be 1,000,000 at the middle of the year 1948.”

Curves for other cities in Canada and the United States are shown on the chart for comparative purposes. The chart is so constructed that a straight line represents a constant percentage of increase in population compounded annually, or, in other words, represents a geometric increase rather than an arithmetic increase. A geometric increase is normal for a city's growth and has been adopted between the stages of 250,000 and 500,000 as the chart shows. From 500,000 upward, in order to make the estimate more conservative and guided by the history of other cities at this stage of their growth, an arithmetic increase has been adopted, with the result that the year 1960 is shown as the date when the city will reach that figure, while, had a geometric rate been adopted, the city would be shown as reaching 1,000,000 in 1955. The chart indicates the possibilities of a large future population, to which consideration must be given in planning the studies.

BUILDING PERMITS.

(Chart 2, Page 32).

The recent building development is shown in the chart presented and confirms recent inter-census estimates of population. For each of the municipalities prior to amalgamation, figures are given and illustrated. These figures are indicative of the type of development in the various municipalities, as can also be gathered from the average value of permits—Vancouver with its office and industrial buildings, Point Grey with its more expensive type of residence, and South Vancouver with a cheaper type of housing development.

It will be noted that for the year 1926 there were nearly 7,500 building permits for Greater Vancouver, in value amounting to over twenty-five million dollars.

PAVED STREETS AND AREAS SERVED BY SEWER AND WATER.

(Plate 3, Page 34).

There is probably no other plan that indicates in so graphic a manner the development of any municipality. While the City of Vancouver is well supplied with these very necessary facilities, there is a surprising spread of such utilities throughout the entire peninsula, indicating an early absorption of the entire area for urban use. Were it not for the probable early development of a large city over this area, this tremendous spread of utility services would be quite unjustified and even now it represents a heavy charge upon a vast area as yet but sparsely developed.

CITY OF VANCOUVER

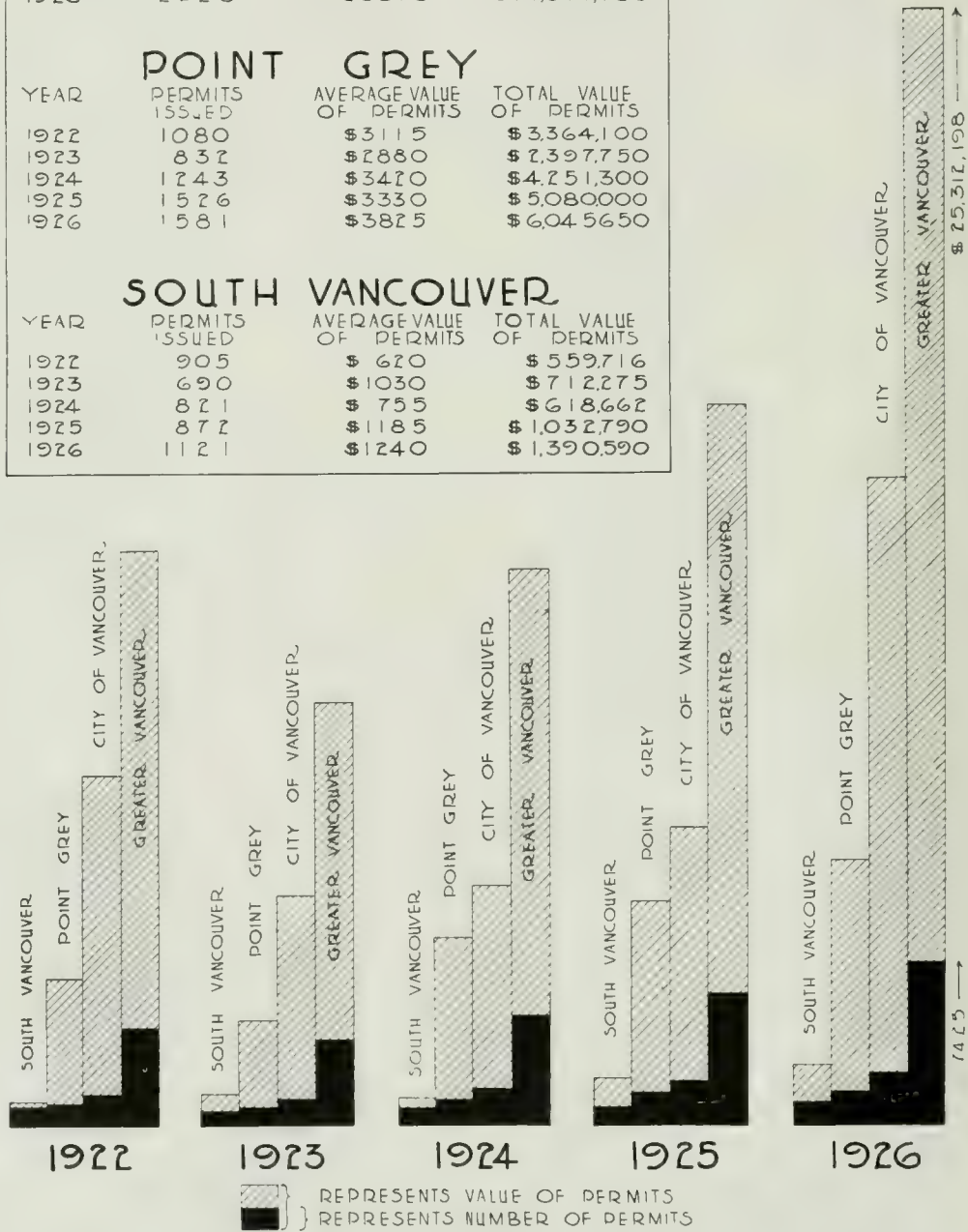
YEAR	PERMITS ISSUED	AVERAGE VALUE OF PERMITS	TOTAL VALUE OF PERMITS
1922	1447	\$5480	\$7,932,111
1923	1250	\$4165	\$5,209,094
1924	1708	\$3205	\$5,477,898
1925	2049	\$3315	\$6,795,343
1926	2420	\$6010	\$14,541,150

POINT GREY

YEAR	PERMITS ISSUED	AVERAGE VALUE OF PERMITS	TOTAL VALUE OF PERMITS
1922	1080	\$3115	\$3,364,100
1923	832	\$2880	\$2,397,750
1924	1243	\$3470	\$4,251,300
1925	1526	\$3330	\$5,080,000
1926	1581	\$3825	\$6,045,650

SOUTH VANCOUVER

YEAR	PERMITS ISSUED	AVERAGE VALUE OF PERMITS	TOTAL VALUE OF PERMITS
1922	905	\$620	\$559,716
1923	690	\$1030	\$712,275
1924	821	\$755	\$618,662
1925	872	\$1185	\$1,032,790
1926	1121	\$1240	\$1,390,590



BUILDING PERMITS ISSUED 1922-1926

VANCOUVER
TOWN PLANNING COMMISSION
1927

HARLAND BARTHOLOMEW
& ASSOCIATES
TOWN PLANNING CONSULTANTS

Areas unbuilt are quite easily distinguished, as such areas are unserved with water.

It might be noted in passing that whereas there is considerable objection at the present time to the emptying of untreated sewage into False Creek, this will be removed by plans which have been made by the Vancouver and Districts Joint Sewerage and Drainage Board for an interceptor that will eliminate such discharge and prevent any possible contamination of the bathing beaches.

PRESENT AND FUTURE TRAFFIC.

(Plate 4, Page 36).

It has become a platitude to say that the street problems of today have become enormously intensified by the invention and use of the automobile. According to statistics of the National Automobile Chamber of Commerce, the annual output of automobiles increased from three hundred in 1895 to 4,326,754 in 1925. Registration in the same years in the United States increased from 300 in 1895 to 19,954,346 in 1925. The greatest increase took place in the last decade, and from 1915 to 1925 this increase was from about two million to twenty million.

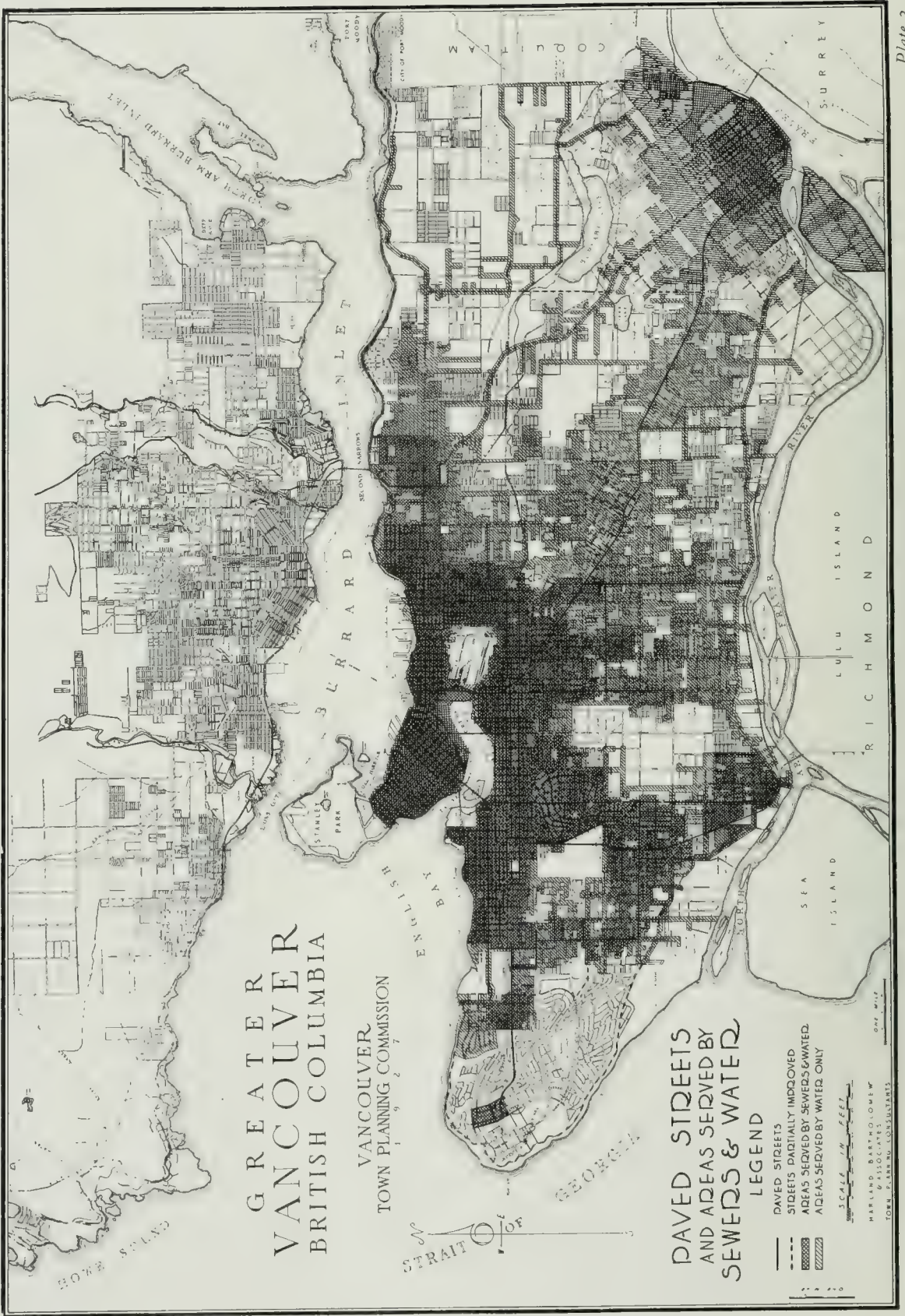
From 1907 to 1926 the figures for automobile registration in the Province of British Columbia are as follows:

1907	175	1917	11,639
1908	263	1918	15,370
1909	594	1919	25,000
1910	1,026	1920	28,000
1911	2,220	1921	32,000
1912.....	4,289	1922.....	33,000
1913.....	6,138	1923.....	40,000
1914	6,688	1924	47,615
1915	7,440	1925	57,657
1916.....	8,596	1926.....	66,933

Owing to the way in which the figures are compiled, it is a matter of some difficulty to distinguish between registrations for the various municipalities, but it has been stated that 63.3% of all the cars in British Columbia are registered at Vancouver and New Westminster.

In 1926 there was one car to every 8.6 persons in British Columbia; in the United States there is, on the average, one car to every five persons, and in California one to every 2.8 persons. This is a condition, though far from being reached in Vancouver, that must be planned for. In this connection, Mr. A. E. Foreman, Chairman of the Streets and Transit Committee of the Vancouver Town Planning Commission, recently stated:

“Last year (1926) approximately 44,000 cars were registered in Greater Vancouver. During the same year, 107,860 foreign cars entered British Columbia through Huntingdon and ports of entry west—two and one-half times the number of domestic cars registered in Greater Vancouver, and, no doubt, the great majority of these visited Vancouver. As our provincial road system is developed, particularly extensions such as the Trans-Provincial Highway through the Fraser Canyon, and as the scenic beauties of British Columbia become better known, the number of foreign cars using our highways will increase tremendously; and, remember, as a reservoir to draw from, there were over twenty-two million motor vehicles registered in the United



States last year, of which nearly two and one-quarter million were in the States of Washington, Oregon and California, and these will be visiting British Columbia in ever-increasing numbers.”

TRAFFIC COUNT.

(Plate 4, Page 36).

In order to make a study of traffic conditions in Vancouver and the surrounding municipalities, a traffic count of vehicular traffic (not including street cars) was undertaken by the Vancouver Town Planning Commission on Thursday, 27th January, 1927, from 4.30 to 6.30 o'clock p.m.

The count was made by volunteer workers, members of the local branch of the Town Planning Institute of Canada acting as inspectors. Students, including several lady students, of the University of British Columbia offered their services and filled the posts of observers. In three of the surrounding municipalities, Point Grey, South Vancouver and New Westminster, the count was made possible by the co-operation of the Municipal Engineers, and in Burnaby with the additional help of the Boy Scouts.

The accompanying tables show the heaviest corners counted. At a normal corner there were eight observers and there was thus obtained, for each street radiating from the corner, the number of vehicles proceeding into the corner and the number of vehicles out from the corner. In the tables no distinction is made between passenger vehicles or trucks or horse-drawn vehicles (of which there were very few noted), but this distinction was made in the actual count.

A comparison of traffic to and from the business district, on the bridges only, is as follows:

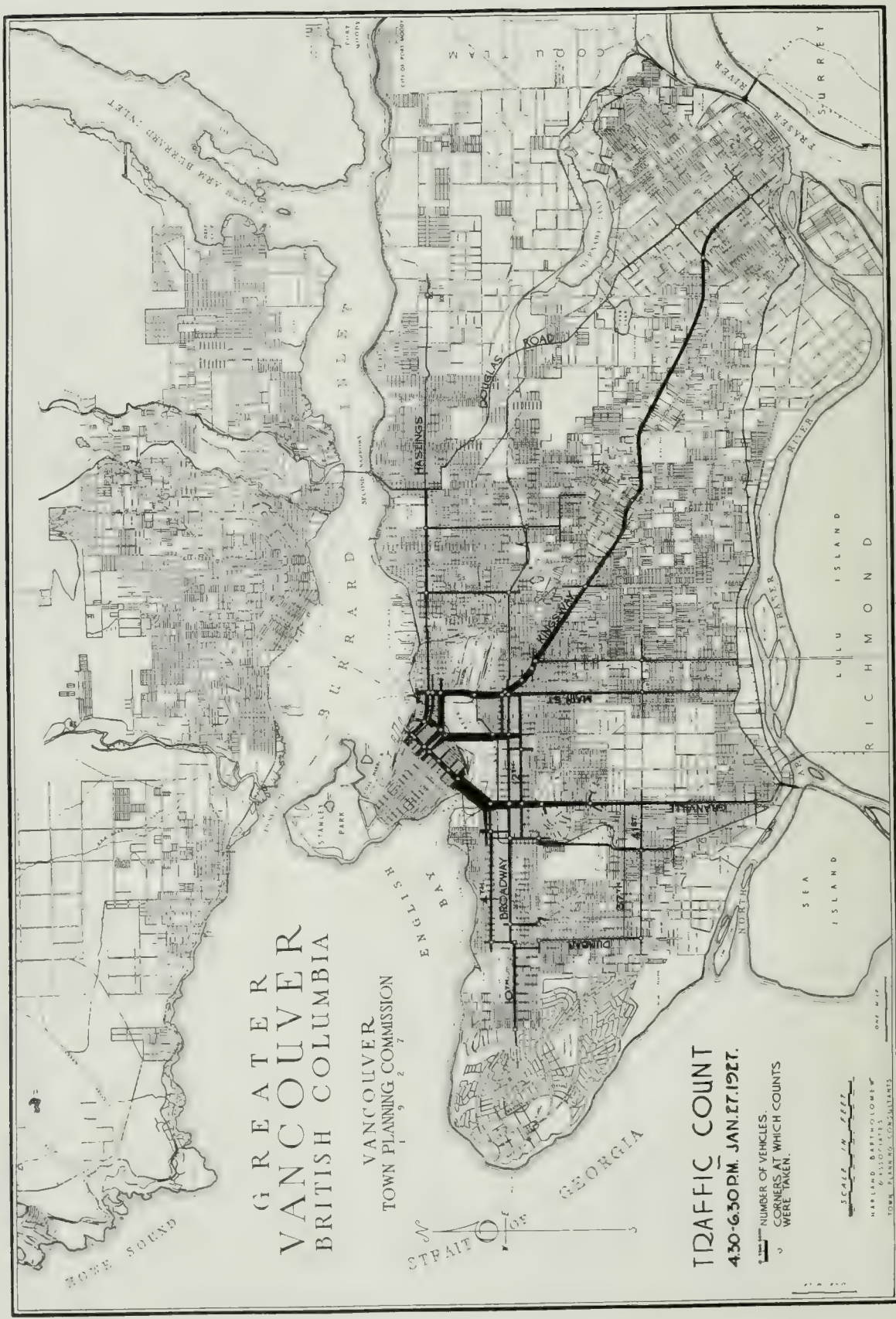
	<i>In</i>	<i>Out</i>	<i>Total Number of Vehicles</i>
Granville Bridge.....	800	2422	3222
Connaught Bridge.....	471	1461	1932
Georgia Viaduct.....	615	726	1331

From the above it will be noted that the total traffic on the Granville Street Bridge was almost equal to the combined traffic on the Connaught and Georgia Viaduct Bridges and emphasizes the need for the proposed Burrard Street Bridge.

Other deductions can be made from a study of the tables and plate 4. An unexpected result was that of finding that the traffic at such corners as Hastings and Granville and Hastings and Pender was much lighter than supposed.

Except for the bridge approaches, there is at present no real traffic problem in the business district, except that brought about by the parking of motor vehicles, to which further reference is made in this report. Few large cities can show so little traffic congestion as Vancouver: a condition that can only be maintained by careful planning.

The present congestion of traffic at the south end of Granville Street Bridge, especially in the evening, will, of course, be relieved by the construction of the Burrard Street Bridge, and also in the future by the construction of a new Granville Street Bridge of greater roadway width, in the position of the first Granville Bridge, which was a production of the portion of Granville Street within the business district.



G R E A T E R
 V A N C O U V E R
 B R I T I S H C O L U M B I A

V A N C O U V E R
 T O W N P L A N N I N G C O M M I S S I O N

T R A F F I C C O U N T
 4:30-6:30 P.M. JAN. 27, 1927.

NUMBER OF VEHICLES.
 CORNERS AT WHICH COUNTS
 WERE TAKEN.

SCALE IN FEET
 HARLAND, BARTHOLOMEW &
 TOWN PLANNING CONSULTANTS

GREATER VANCOUVER TRAFFIC COUNT

27th January, 1927 4.30 to 6.30 p.m.

1. TRAFFIC ENTRIES TO BUSINESS DISTRICTS.

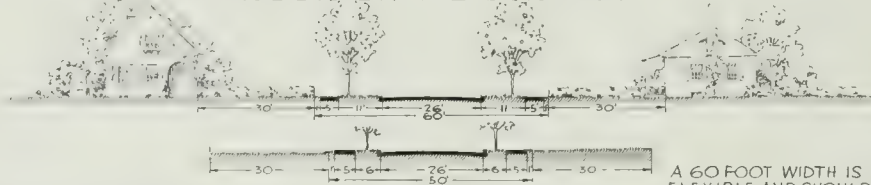
Corner	NORTHERLY		SOUTHERLY		EASTERLY		WESTERLY		Total Number of Vehicles Counted	Max. 15 Minutes in One Direction
	In	Out	In	Out	In	Out	In	Out		
	A	B	C	D	E	F	G	H		
Granville and Pacific (Granville Bridge Head Traffic)	818	380	800	2422	891	340	821	212	3342	D: 5.45-6.00 p.m.
Beatty and Robson (Connaught Bridge Head Traffic)	737	391	471	1461	180	309	937	346	2171	D: 5.30-5.45 p.m.
Georgia and Main	763	444	652	932	121	174	726	605	2305	D: 5.00-5.15 p.m.
Pender and Main	448	306	420	685	265	236	344	170	1334	D: 5.00-5.15 p.m.
Hastings and Main	254	152	306	448	123	139	333	282	1138	D: 4.30-4.45 p.m.
Granville and Davie	741	367	386	766	140	138	260	177	1480	D: 5.45-6.00 p.m.
Granville and Nelson	625	365	388	656	215	265	138	105	1277	A: 5.45-6.00 p.m.
Granville and Robson	585	367	368	577	480	464	347	254	1489	D: 5.00-5.15 p.m.
Granville and Georgia	538	531	400	581	314	187	497	447	1969	D: 5.45-6.00 p.m.
Granville and Pender	300	236	297	460	326	321	179	235	1134	D: 5.00-5.15 p.m.
Granville and Hastings	287	124	236	360	616	719	293	332	1139	D: 5.00-5.15 p.m. H: 5.30-5.45 p.m.
Georgia and Beatty	548	331	391	737	300	336	787	574	2362	A: 5.00-5.15 p.m.
Hastings and Cambie	276	125	136	307	360	336	348	364	1126	H: 4.30-4.45 p.m.

PROPOSED DEVELOPMENT OF MAJOR AND MINOR STREETS GREATER VANCOUVER

HARLAND BARTHOLOMEW & ASSOCIATES

TOWN PLANNING CONSULTANTS

RESIDENTIAL STREETS



EXTREME WIDTH ON PURELY LOCAL RESIDENTIAL STREETS IS UNNECESSARY EXCEPT FOR EFFECT.

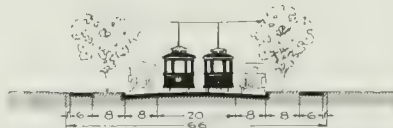
A 50 FOOT STREET SHOULD BE USED ONLY IN THOSE DISTRICTS WHERE NO MORE THAN 3 LINES OF VEHICLES WILL EVER BE NECESSARY.

A 60 FOOT WIDTH IS MORE FLEXIBLE AND SHOULD BE THE MINIMUM FOR MOST STREETS. ULTIMATELY IT COULD BE WIDENED TO ACCOMMODATE 4 LINES OF VEHICLES IF NECESSARY.

MAJOR STREETS

STREET AND ROADWAY WIDTHS SHOULD NOT BE ESTABLISHED ARBITRARILY. ROADWAY WIDTHS—THE DISTANCE BETWEEN CURB LINES—SHOULD BE BASED UPON THE NUMBER OF LINES OF VEHICLES THEY ARE TO ACCOMMODATE AND STREET WIDTHS—THE SPACE BETWEEN PROPERTY LINES—SHOULD BE DETERMINED BY THE WIDTH OF ROADWAY TOGETHER WITH PROVISION FOR AMPLE SIDE WALK SPACE. HERE ARE SHOWN TYPICAL EXAMPLES OF MODERN STREET DESIGN.

FOUR LINE THOROFARES



INADEQUATE FOR MAJOR STREET PURPOSES. THERE SHOULD BE ROADWAY SPACE FOR AT LEAST ONE FREE MOVING LINE OF VEHICLES ON EACH SIDE OF THE STREET. THIS IS NOT OBTAINABLE ON A 66 FOOT STREET WHICH CARRIES A CAR LINE.

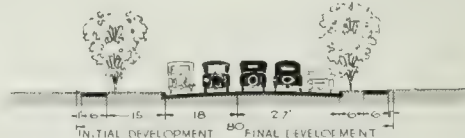


A 66 FOOT STREET IS THE MINIMUM WIDTH FOR A MAJOR STREET WITHOUT CAR LINES. WHERE ADDITIONAL VEHICULAR PARKING SPACE IS REQUIRED THE ROADWAY SPACE COULD BE INCREASED 6 FEET AND VEHICLES PARK AT AN ANGLE OF FORTY FIVE DEGREES ON ONE SIDE OF THE STREET.

SIX LINE THOROFARES

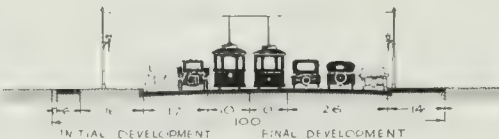


THIS SHOULD BE THE MINIMUM WIDTH FOR A MAJOR STREET CARRYING STREET CARS IN THE OUTLYING DISTRICTS. WHERE TRAFFIC IS LIGHT THE ROADWAY NEED NOT BE DEVELOPED TO ITS ULTIMATE WIDTH IN THE FIRST INSTANCE.

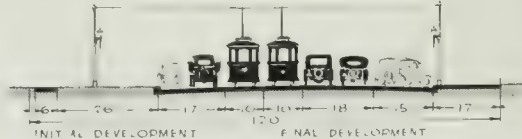


ALL NEW MAJOR STREETS SHOULD HAVE A MINIMUM WIDTH OF 80 FEET. THE STREET SHOULD BE DEVELOPED SO THAT IT CAN ULTIMATELY BE WIDENED TO A 6 LINE THOROFARE AND PUBLIC UTILITIES SHOULD BE INSTALLED IN ACCORDANCE WITH FINAL DEVELOPMENT.

EIGHT LINE THOROFARES



MAIN RADIAL THOROFARES WITH CAR LINES SHOULD HAVE A WIDTH OF 100 FEET. THIS WIDTH WILL ACCOMMODATE EIGHT LINES OF VEHICLES. A 100 FOOT STREET IS ALSO A DESIRABLE 6 LINE THOROFARE IN A RESIDENTIAL DISTRICT AS IT PROVIDES ADDITIONAL GRASS PLOT BETWEEN SIDEWALK AND CURB AND GIVES THE STREET MORE CHARACTER.



A 120 FOOT STREET WOULD ACCOMMODATE 6 FREE MOVING LINES OF VEHICLES AND ANGULAR PARKING AT EITHER SIDE OF THE STREET. SIDEWALK SPACE IS ALSO CONSIDERABLY INCREASED.

NOTE—FREE MOVING VEHICLES ARE SHOWN IN SOLID BLACK—PARKED VEHICLES ARE SHOWN BY OUTLINE.

STANDARDS FOR MODERN STREET DEVELOPMENT. (Chart 3).

A modern street system makes it possible for traffic to move safely and quickly to and from all parts of the city. This requires a complete scheme for circulation co-ordinating the present and future heavy duty streets, and while the exact arrangement of thoroughfares is necessarily different in every community, depending upon topographical conditions, there are certain fundamental characteristics applicable to all.

CONTINUITY AND DIRECTNESS.

Of the requisites essential to an effective major street, none is more important than continuity. Interruptions, such as jogs, dead ends and the like, retard the expeditious movement of vehicles and become serious traffic hazards. While nowadays distance is more often expressed in time required to travel than in actual mileage, yet in so far as topography permits, the main routes should be as direct as possible in order to accelerate traffic movements.

WIDTH.

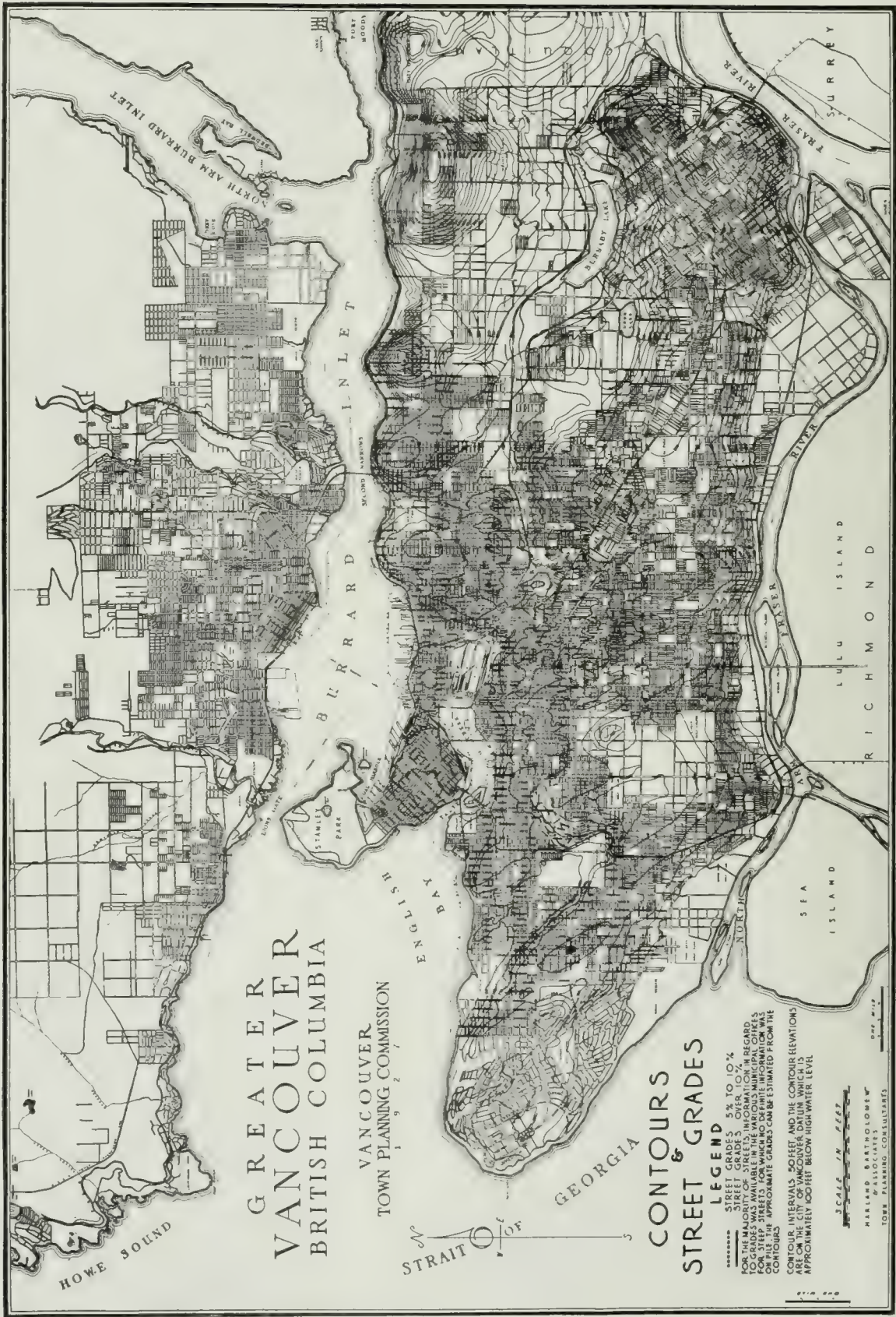
The street width is the space between property lines, while the roadway includes the area between the curbs. Heretofore roadway widths, which limit the volume of vehicular traffic, have been established arbitrarily without relation to the number of lines of vehicles to be accommodated. Roadway widths should be based on the number of lines of traffic to be carried. In the case of major streets this should never be less than four lines and preferably six. As shown in Chart 4, these requirements are met by a 66-foot street with a 36-foot pavement, and preferably by an 80-foot street with a 54-foot pavement. Greater roadway widths can be determined by allowing on the average (including street car lines) 9 feet for each line of traffic to be planned for. Main thoroughfares should be at least 99 feet wide, with a 72-foot roadway.

PROPERLY DESIGNED ROADWAYS.

Minor streets and special service streets may have such widths as will satisfy the requirements of local traffic. If a special effort is made to place wide streets where they belong minor streets may be correspondingly reduced in width. To secure good appearance on a narrow street this can best be obtained by enforcing a building line that will keep houses back and permit the planting of trees along street lines. Minor streets of a residential character often need only a three-line roadway. The overall width of minor streets, however, should not be less than fifty (50) feet and preferably sixty (60) feet with a roadway width of from 24 to 27 feet.

EASY GRADIENTS AND CURVES.

Major streets should be designed and laid out so as to encourage their use, else they will fail of their purpose. Excessive grades or sharp turns in the alignment of the street will repel traffic and force it to take neighbouring minor streets not designed or paved to accommodate heavy traffic. Curb radii should be given more attention. The old standards of a three or six-foot radius, easily negotiated by horsedrawn vehicles, are traffic hazards today, as they throw the turning motor car, regardless of speed, out of its proper channel into the path of other moving vehicles, which confuses both motorist and pedestrian.



G R E A T E R
V A N C O U V E R
B R I T I S H C O L U M B I A

V A N C O U V E R
T O W N P L A N N I N G C O M M I S S I O N

C O N T O U R S
& G R A D E S
L E G E N D

..... STREET GRADES 5% TO 10%
 - - - - - STREET GRADES OVER 10%
 FOR THE MAJORITY OF STREETS, INFORMATION IN REGARD
 TO STREET GRADES WAS OBTAINED FROM THE
 FOR STREET GRADES FOR WHICH NO DEFINITE INFORMATION WAS
 AVAILABLE, APPROXIMATE GRADES CAN BE ESTIMATED FROM THE
 CONTOURS.
 CONTOUR INTERVALS, 50 FEET, AND THE CONTOUR ELEVATIONS
 ARE ON THE CITY OF VANCOUVER DATUM, WHICH IS
 APPROXIMATELY 100 FEET BELOW HIGH WATER LEVEL.

SCALE 1" = 200'
 HAROLD S. ATKINSON
 TOWN PLANNING CONSULTANTS

To meet the requirements of modern motor traffic, especially in Vancouver, where ice and snow conditions occasionally obtain, grades over 10% should be avoided, but short lengths with grades as great as 9% are to be preferred to long deviations. Grades up to 3% are practically disregarded, and 5% is a very desirable maximum grade. As a guide in estimating what is meant by these figures, it might be mentioned that the maximum grade between Fifteenth and Sixteenth Avenues on Granville Street is just over 7%.

Changes in alignment should be accomplished by curves of a radius of 500 feet or over if possible. For motor traffic curb radii should be from 20 to 25 feet, though the convenience of pedestrians should also be considered for crossings at street intersections. On wide streets safety islands should be provided at the centre for their convenience and safety.

STREET PAVEMENT.

A systematic paving programme based on the major street plan can be made a means of great economy. Much paving that is destroyed through the abuse of local streets can be saved by a properly designed system of major thoroughfares. If the surfacing of these heavily used streets is attractive and durable, there should be no reason for the shifting of traffic flow. Strictly local streets can then be improved with less expensive pavements.

The foregoing is a brief summary of the fundamental principles of modern street planning. It can readily be seen that a plan of streets suited to the traffic needs of the modern city can not be devised by hit or miss methods. The major streets constitute an organic, functional system. The topography, railroads, industries, arterial highways, transit routes and the character of the home districts must all be taken into account. Chart No. 3 illustrates typical street cross sections for modern street planning. In the light of these standards, the street system of the Burrard Peninsula is next examined to see how nearly it meets these requirements.

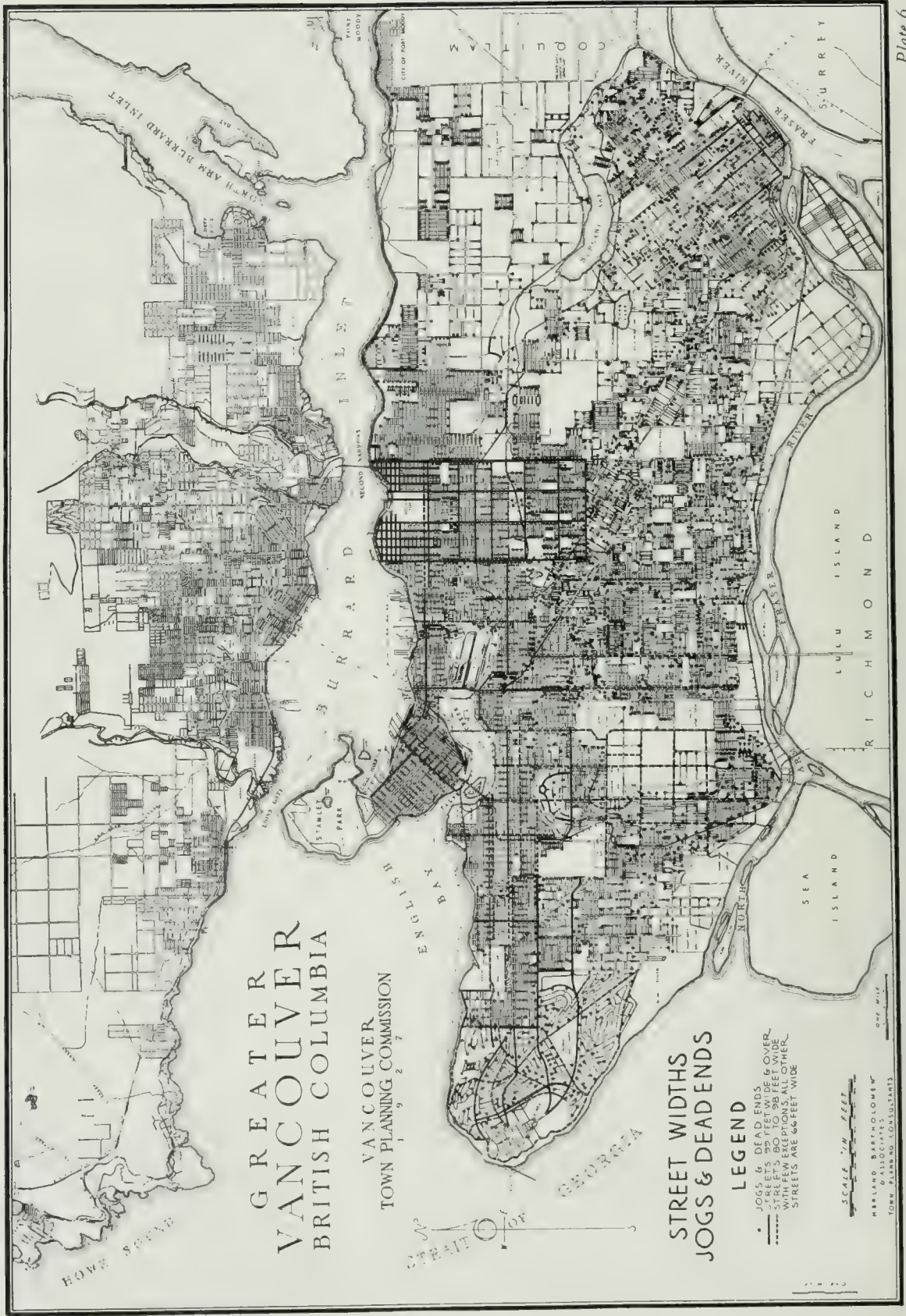
CONTOURS AND STREET GRADES.

(Plate 5).

The differences in elevation throughout the region that make for fine scenic effects render the study of the grades of streets most important. The plate shows some of the steeper grades, together with contours of fifty-foot intervals. A map has been prepared of the district showing ten-foot contour intervals, but it would be difficult to distinguish these contours if reproduced here.

Evidently replotting of streets is needed in several areas in the district. Already in Point Grey replotting has been successfully accomplished along the steep slope that exists between Trafalgar Street on the east and Sixteenth Avenue on the north, where there is a difference of some 100 feet in elevation. There has also been prepared, and to this further reference will subsequently be made, a scheme for replotting the north-east portion of Hastings Townsite at the Second Narrows. The map also shows other areas, such as Capitol Hill east of Hastings Townsite and certain portions of Burnaby Mountain, still further east and adjoining Barnett Road, that, to fit the contours, should be replotted.

The great need in New Westminster for planning is graphically represented by this study, which illustrates the numerous streets there of heavy grade. The need is, of course, for traffic entries to New Westminster with better grades.



STREET WIDTHS, JOGS AND DEAD ENDS.

(Plate 6).

This map is presented to show *inter alia* some of the defects in street layout. The numerous dots indicate either street jogs or dead ends, many of which were unnecessary and represent poor planning.

Jogs are offsets in street alignment and naturally interrupt the direct flow of traffic. Dead ends necessitate traffic being forced either to the right, left or completely around. While these are not necessarily defects on minor streets where through traffic should be discouraged, they are objectionable on streets that are to be used as major streets. A list has been made of defects considered particularly objectionable and is set out later in this report.

It will be noted that the district is not without its wide streets, some of which are 132 feet in width, for example, portions of Boundary Road, King Edward and Sixteenth Avenues. But unfortunately all of the wide streets are not in locations in which they will be of most value to traffic needs. In some instances, particularly in Hastings Townsite, the wide streets are a disadvantage rather than an advantage and represent an unnecessarily large proportion of street area compared to lot area for what is largely a residential development.

In so far as possible, all existing wide streets have been incorporated in the Major Street Plan, as eighty (80) feet is the desirable minimum major street width, allowing for six lines of traffic; as before mentioned, the absolute minimum, though not recommended for such thoroughfares, is four lines of traffic.

There is a sharp distinction between major streets and minor streets; while main thoroughfares in particular should be of a commodious width of 80 or 100 feet or more, and should provide for uninterrupted flow of traffic, minor streets, especially in residential districts, should be designed to discourage anything but local traffic. Nearly all minor streets in Vancouver are 66 feet wide and are of ample width. It might be noted that there is a greater mileage of minor streets of excessive than of inadequate width.

MAJOR STREETS.

(Plate 7, Page 44).

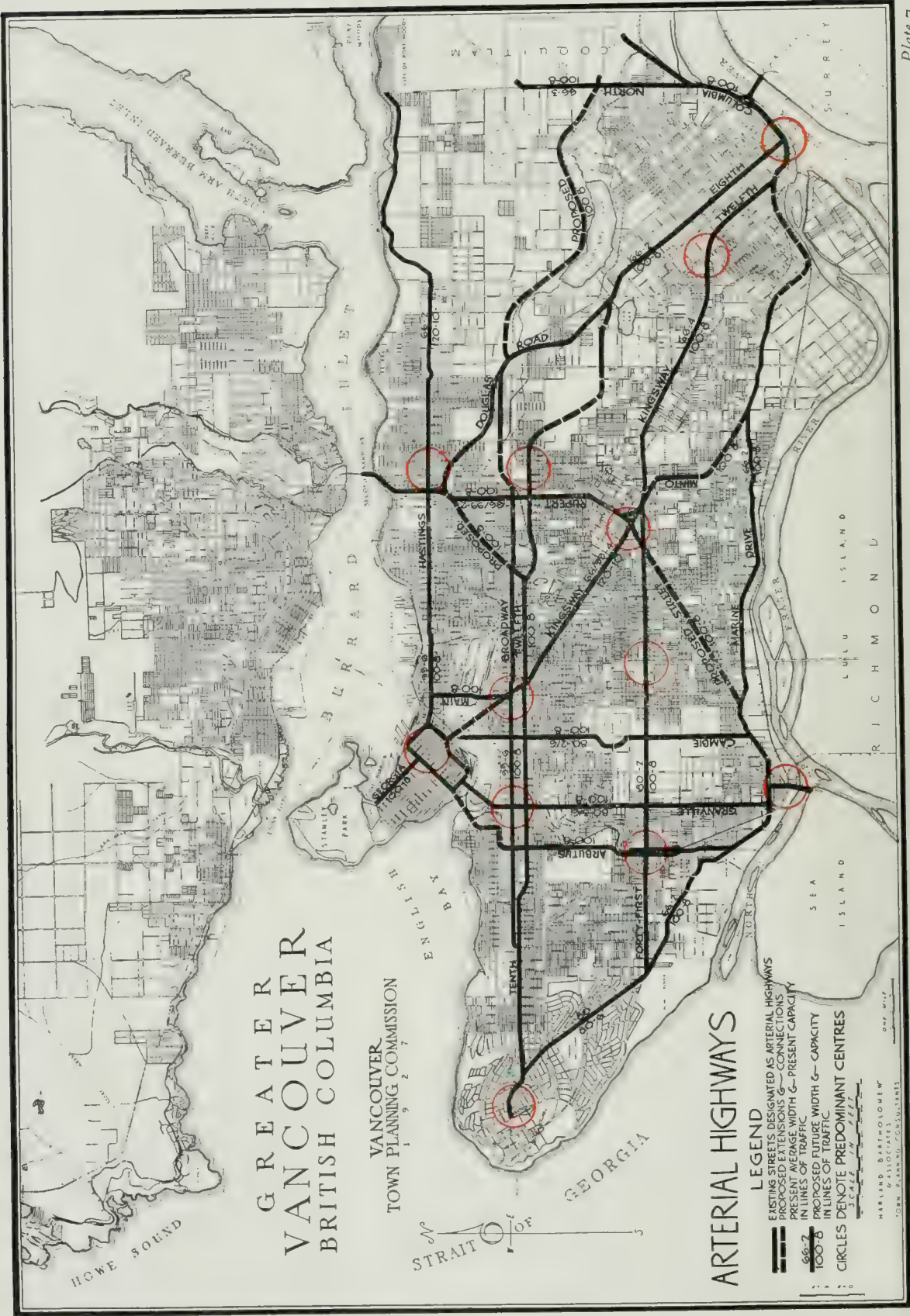
ARTERIAL HIGHWAYS, REGIONAL.

In the design of a street system there are three types of streets that every well-planned city should have:

- Arterial highways or main thoroughfares.
- Secondary streets or cross thoroughfares.
- Minor streets.

The first two types are classed as major streets. Plate 6 shows the main thoroughfares or arterial highways alone. In a subsequent plate the combination of main and secondary thoroughfares constituting the Major Street Plan is shown.

The main thoroughfares within the city limits are better described as arterial highways outside the city limits. They not only provide continuous and direct communication between the central business district and all parts of the city, but they also link up the surrounding areas. Diagrammatically they have been considered as the spokes in a wheel radiating in all directions from the hub.



MAJOR STREETS, INCLUDING ARTERIAL HIGHWAYS FOR THE REGION. (Plate 8, Insert).

Most of the previous studies have dealt with existing conditions. The Major Street Plan is a forecasting for the future by proposing the widening of existing streets and the providing of new extensions and connections. Anticipation of future growth is the only method by which a satisfactory and economic plan can be evolved.

Wherever possible, existing streets have been used as part of the major street system. Many of these will have to be widened to at least 80 feet, since they are but 66 feet wide.

It is not expected that all the proposals of this Major Street Report will be carried out exactly as detailed. The proposals should rather be regarded as general recommendations subject to further studies for each individual project. Further, there may be some changes as a result of subsequent studies of the other phases, particularly in regard to boulevards and driveways to be dealt with in the report on public recreation.

A policy for street widening has to be determined that will best suit both existing and future conditions. It is not necessary that all the widenings be carried out at once, but these proposals should always be kept in mind so that new development can be controlled accordingly. Provision for street widening, and the acquisition of properties required for the extensions and connections in built-up areas, constitute the first phase in the execution of the major street plan and require the acquisition of property and the expenditure of public funds.

It is possible to provide for new extensions and connections in unsubdivided areas without expense to the public. Under proper regulations the new streets can be obtained as the subdivisions are registered. In Ontario, for example, the city has the power of approval of subdivisions within five miles of its boundaries, and this power should be granted to cities in British Columbia.

From the experience of cities, both in Canada and the United States, the regulations of new subdivisions is undoubtedly one of the best services that a Planning Commission can render, and some Commissions give a great deal of time to this work; in effect they become the "approving officer". If legislation is granted authorizing the regulation of subdivisions by Town Planning Commissions, the Commissions should make available to those interested a set of rules such as suggested in Appendix II. It is gratifying to note that most of the principles embodied in these rules have already been recognized by the provisions of the Land Registry Act of British Columbia. In Appendix I. there will be found sections of various Acts that relate to subdivisions in the Province of British Columbia in general, and in the City of Vancouver in particular.

MAJOR STREET PLAN FOR CITY OF VANCOUVER. (Plate 9, Insert).

The studies for the City of Vancouver have been made in more detail than for the region. The general proposals are indicated on the accompanying plan and are detailed in the list that follows.

It is this plan and list of street descriptions that under the provisions of the Town Planning Act the Council should adopt.



GREATER VANCOUVER BRITISH COLUMBIA

VANCOUVER
TOWN PLANNING COMMISSION
1 9 2 7

STRAIT OF
GEORGIA

REGIONAL MAJOR STREET PLAN LEGEND

- MAJOR STREETS OF SUFFICIENT WIDTH
- - - MAJOR STREETS TO BE WIDENED
- - - PROPOSED EXTENSIONS & CONNECTIONS

SCALE IN FEET

HARLAND BARTHOLOMEW
& ASSOCIATES
TOWN PLANNING CONSULTANTS

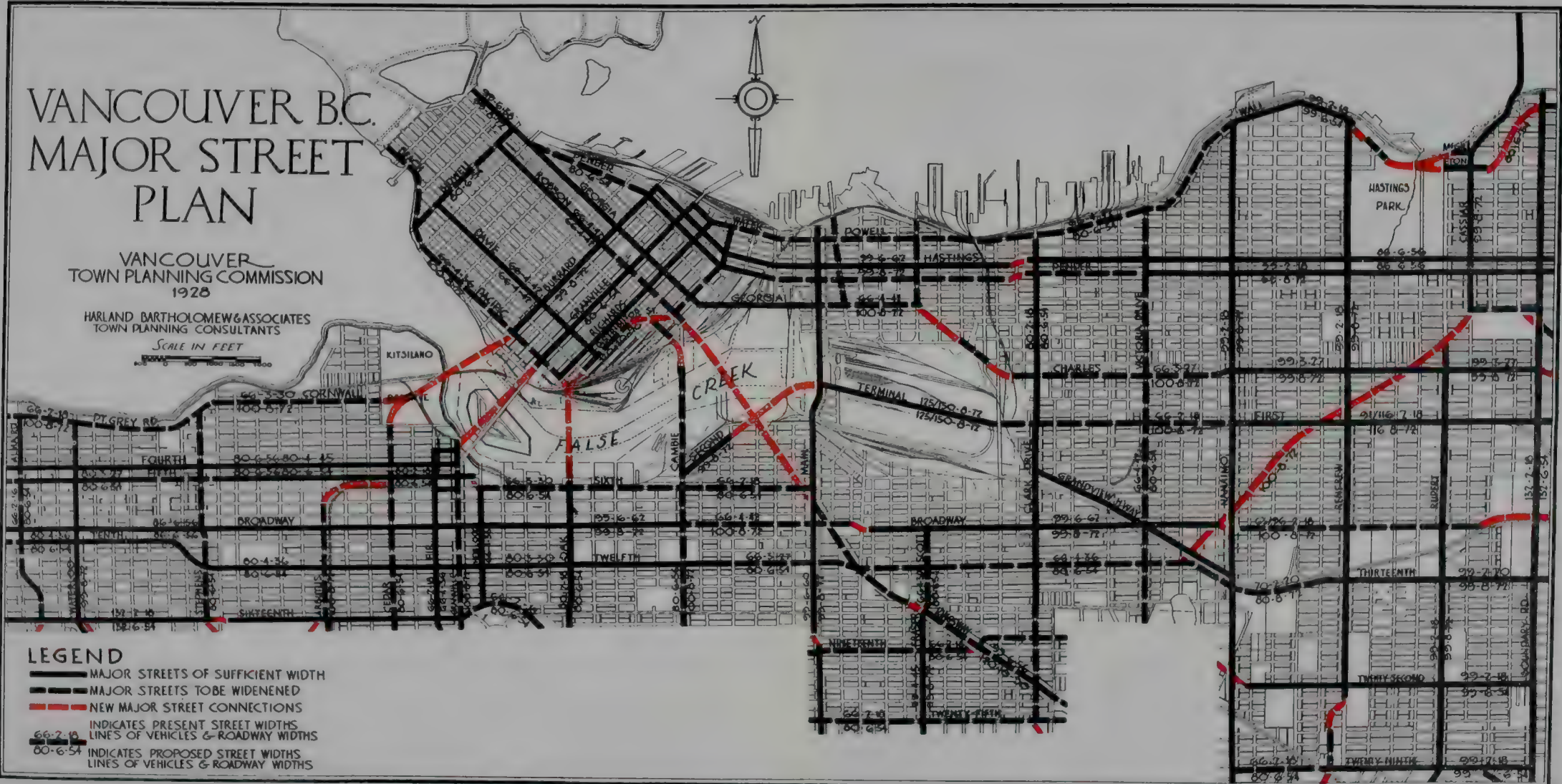
ONE MILE

VANCOUVER B.C. MAJOR STREET PLAN

VANCOUVER
TOWN PLANNING COMMISSION
1928

HARLAND BARTHOLOMEW & ASSOCIATES
TOWN PLANNING CONSULTANTS

SCALE IN FEET



LEGEND

- MAJOR STREETS OF SUFFICIENT WIDTH
- MAJOR STREETS TO BE WIDENENED
- NEW MAJOR STREET CONNECTIONS
- INDICATES PRESENT STREET WIDTHS
LINES OF VEHICLES & ROADWAY WIDTHS
66-7-18
- INDICATES PROPOSED STREET WIDTHS
LINES OF VEHICLES & ROADWAY WIDTHS
80-6-54

INDEX TO MAJOR STREETS—VANCOUVER

<i>Street Name</i>	<i>Route No.</i>	<i>Street Name</i>	<i>Route No.</i>
Alma Road.....	25	Heatley Avenue.....	43
Arbutus Street.....	28	Hemlock Street.....	32
Atlantic Street.....	4	Homer Street.....	41
Atlin Street.....	48	Kingsway.....	23
Beach Avenue.....	9	Kitsilano Diversion	17
Bidwell Street.....	37	Main Street.....	35
Blenheim Street.....	26	Marpole Avenue.....	18
Boundary Road.....	50	McGill Street.....	1
Bridgeway.....	47	Nanaimo Street.....	46
Broadway.....	16	Nineteenth Avenue	19
Burrard Street.....	38	Oak Street.....	33
Cambie Street.....	41	Pacific Street	9 & 41
Cambie Street South.....	34	Pender Street.....	3
Cassiar Street.....	47	Point Grey Road.....	11
Cedar Street.....	28 & 29	Powell Street.....	1
Charles Street.....	4	Renfrew Street.....	48
Clark Drive	44	Richards Street	40
Cordova Street.....	1	Robson Street.....	5
Cornwall Street.....	11	Rupert Street.....	49
Davie Street.....	8	Scott Street.....	36
Distributor Street.....	41	Second Avenue.....	15
Dunbar Street.....	25	Sixth Avenue	14
Dundas Street.....	1	Sixteenth Avenue.....	18
Eighteenth Avenue	19	Smithe Street.....	7
Eton Street.....	1	Stephens Street.....	27
Fifth Avenue	13	Tenth Avenue	17
Fifteenth Avenue.....	18	Terminal Avenue.....	10
Fir Street	30	Twelfth Avenue.....	17
First Avenue.....	10	Twenty-Second Avenue.....	20
Fourth Avenue...	12	Twenty-Fifth Avenue.....	21
Fraser Avenue.....	36	Twenty-Ninth Avenue	22
Georgia Street	4	Union Street.....	5
Gore Avenue	42	Victoria Drive.....	45
Grandview Highway.....	17 & 24	Wall Street	1
Granville Street	39	Water Street.....	1
Granville Street South	31	Waterloo Street	26
Hastings Street.....	2	Wolfe Avenue	18

TABULATION OF PROPOSED MAJOR STREETS

EAST AND WEST STREETS FROM THE WATERFRONT

NAME OF STREET	WIDTHS IN FEET		TRAFFIC CAPACITY (In Lines of Vehicles)		REMARKS
	Present	Proposed	Present	Proposed	
	1. CORDOVA-WATER-POWELL-DUNDAS- WALL-McGILL AND CONNECTIONS—				
CORDOVA STREET: Granville to Richards	66	66	4	4	
WATER STREET: Richards to Carrall	66	80	4	6	
POWELL STREET: Carrall to Main	66	80	4	6	
Main to Victoria Drive	66	80	4	6	
DUNDAS STREET: Victoria Drive to Semlin Drive	66	80	4	6	
WALL STREET: Semlin Drive to Nanaimo	66	80	2	6	
Nanaimo to Yale	99	99	2	6	
McGILL STREET: Rupert to Cassiar	99	80	.....	6	Connection Yale to Trinity and thence to Rupert. Note connection via McGill to Second Narrows Bridge.
ETON STREET: Rupert to Cariboo	99	99	2	6	
	.....	80	.....	6	Connection Eton to Edinburgh at Boundary.
2. HASTINGS STREET: Burrard to Carrall	80	80	6	6	
Carrall to Victoria Drive	99	99	6	8	
Victoria Drive to Boundary	84½-86	84½-86	6	8	Present width of 51' gives bare six lines of traffic.
3. PENDER STREET: Georgia to Burrard	66	80	4	6	
Burrard to Cambie	66	66	4	4	

Cambie to Carrall	90	6	6	8
Carrall to Victoria	66	2	8	
Victoria to Boundary	99	2	8	
4. GEORGIA-CHARLES—				
GEORGIA STREET:				
Stanley Park to Burrard	99	6	8	Present width of 50' gives bare six lines of traffic.
Burrard to Viaduct	94	6	8	
Viaduct	53	6	6	
Main-Heatley	66	4	8	Connection to Atlantic at Campbell Avenue.
			8	
ATLANTIC AVENUE:				
Campbell-Raymur	66		8	Connection to Charles at George Street.
			8	
CHARLES STREET:				
George to Nanaimo	66	2	8	Improve jog at Nanaimo.
Nanaimo to Boundary	99	3	8	
5. UNION STREET:				
Cassiar to Kootenay	66	2	8	Connection with Douglas Road at Boundary.
			8	
6. ROBSON STREET:				
Bidwell to Burrard	66	4	4	
Burrard to Cambie	66	4	6	
Cambie to Beatty	90	6	10	Connection with proposed Kingsway Viaduct.
7. SMITHE STREET:				
Proposed Distributor Street to				
Connaught Bridge.....	66	2	4	
8. DAVIE STREET:				
Bidwell to Granville	66	4	4	
Granville to Richards	66	4	4	
Richards to Homer	66	4	4	
9. BEACH-PACIFIC—				
BEACH AVENUE:				
Stanley Park-Broughton ..	66	4	8	

EAST AND WEST STREETS FROM THE WATERFRONT

NAME OF STREET	WIDTHS IN FEET		TRAFFIC CAPACITY (In Lines of Vehicles)		REMARKS
	Present	Proposed	Present	Proposed	
PACIFIC STREET: Broughton to Burrard.....	66	100	4	8	
10. TERMINAL AVENUE—FIRST—					
TERMINAL AVENUE: Main to C.N.R. Depot	85	100	2 2	8	
C.N.R. Depot to Glen Drive	125-150	125-150		8	
FIRST AVENUE: Glen Drive to Clark Drive....	....	100	....	8	Connection.
Clark Drive to Nanaimo.	66	100	2	8	
Nanaimo to Boundary Road.	91-116	100 116	2	8	
11. POINT GREY ROAD-CORNWALL—					
POINT GREY ROAD: Alma-Dunbar	66	100	3	8	
Dunbar-Trafalgar.	66	100	2	8	Improve jog at Trafalgar Street.
CORNWALL STREET: Trafalgar to Chestnut	66	100	3	8	
	....	100		8	Connection to proposed Burrard Bridge.
12. FOURTH AVENUE: Alma to Vine	80	80	6	6	
Vine to Granville	80	80	4	6	
13. FIFTH AVENUE: Alma to Bayswater	80	80	3	6	
Bayswater to Trafalgar	66	80	3	6	
Trafalgar to Balsam	80	80	3	6	
Balsam to Connection	80	80	2	6	Connection to Sixth at Hemlock.

14. SIXTH AVENUE:									
Fir to Granville	66		66	2				4	
Granville to Cambie	66		80	3				6	
Cambie to Main	66		80	2				6	
15. SECOND AVENUE:									
Cambie to Columbia	99		99	2				8	Connection from 6th Avenue.
			99					8	
			99					8	Connection to Terminal Avenue at Main.
16. BROADWAY:									
Alma to Trafalgar	86		86	6				6	
Trafalgar to Granville	99		99	6				8	
Granville to Cambie	99		99	6				8	
Cambie to Yukon	82		100	6				8	
Yukon to Alberta	70		100	4				8	
Alberta to Prince Edward	66		100	4				8	Improve alignment at Prince Edward.
Prince Edward to Commercial Drive	99		99	6				8	
Commercial Drive to Nanaimo	99		99	2				8	Improve jog at Nanaimo.
Nanaimo to Connection	63 96		100	2				8	Connection north of railway with new street.
			100					8	
17. TENTH - TWELFTH--									
TENTH AVENUE:									
Alma to McKenzie	80		80	4				6	
KITSILANO DIVERSION:									
McKenzie to Trafalgar	80		80	4				6	
TWELFTH AVENUE:									
Trafalgar to Cypress	80		80	4				6	
Cypress to Granville	80		80	2				6	
Granville to Columbia	80		80	3				6	
Columbia to Main	66		80	3				6	
Main to Kingsway	66		80	2				6	
Kingsway to Lakewood	66		80	4				6	
Lakewood to Grandview Highway	66		80	2				6	
GRANDVIEW HIGHWAY:									
Twelfth to Nanaimo	70		80	2				6	South of G.N.R.

EAST AND WEST STREETS FROM THE WATERFRONT

NAME OF STREET	WIDTHS IN FEET		TRAFFIC CAPACITY (In Lines of Vehicles)		REMARKS
	Present	Proposed	Present	Proposed	
18. SIXTEENTH AVENUE—					
SIXTEENTH AVENUE: Alma to Trafalgar. Trafalgar to Granville	132 80	132-135 80	2 2	6 6	
MARPOLE AVENUE: Granville to Fifteenth	66	80	2	6	Improve alignment of Marpole.
FIFTEENTH AVENUE: Marpole to Wolfe	66	80	2	6	
WOLFE AVENUE: Fifteenth to Sixteenth	66	80	2	6	Continues in Point Grey.
19. NINETEENTH-EIGHTEENTH—					
NINETEENTH AVENUE: Main to Windsor	66	80	2	6	Improve jog at Main and connection to Eighteenth.
EIGHTEENTH AVENUE: Windsor to Knight Road	66	80	2	6	Continues in South Vancouver.
20. TWENTY-SECOND AVENUE—					
TWENTY-SECOND AVENUE: Nanaimo to Boundary	99	99	2	6	Connects with Nineteenth in South Vancouver.
21. TWENTY-FIFTH AVENUE—					
TWENTY-FIFTH AVENUE: Main to Knight Road	66	80	2	6	Connects with Kingsway in South Vancouver. Also known as Government Street. Improve jog at Nanaimo. Connect with Moscrop at Boundary.
22. TWENTY-NINTH AVENUE: Nanaimo to Vanness Vanness to Boundary	66 99	80 99	2 2	6 8	

23. KINGSWAY:								Connection with Robson by north-westerly production from Main.
Main to Twelfth	99	120			6	10		
Twelfth to Fraser	80	120			6	10		Improve alignment at Fifteenth Avenue.
Fraser to Knight	99	120			6	10		Improve alignment at Knight.
24. GRANDVIEW HIGHWAY:								
Clark Drive to Nanaimo	70	86			2	8		
Nanaimo to 13th Avenue	70	86			2	8		East of G.N.R.
THIRTEENTH AVENUE:								
G.N.R. to Boundary	99	99			2	8		Thirteenth Avenue now known as Grandview Highway

NORTH AND SOUTH STREETS FROM WEST TO EAST
(South of False Creek)

NAME OF STREET	WIDTHS IN FEET		TRAFFIC CAPACITY (In Lines of Vehicles)		REMARKS
	Present	Proposed	Present	Proposed	
25. DUNBAR-ALMA ROAD					
DUNBAR STREET:					
Sixteenth to Fourteenth	66	76		6	
Fourteenth to Twelfth	82	82		6	
ALMA ROAD:					
Twelfth to Point Grey Road	66	80	2	6	
26. WATERLOO STREET—					
Sixteenth to Point Grey Road	99	99	2	8	Blenheim Street recommended as alternate major street if Waterloo incorporated in proposed Parkway
27. STEPHENS STREET—					
Sixteenth to Broadway	66	80	2	6	
Broadway to Point Grey Road	66	80	2	6	

EAST AND WEST STREETS FROM THE WATERFRONT

NAME OF STREET	WIDTHS IN FEET		TRAFFIC CAPACITY (In Lines of Vehicles)		REMARKS
	Present	Proposed	Present	Proposed	
	28. ARBUTUS-CEDAR—				
ARBUTUS STREET: Sixteenth to Eighth.	66	100 86	2	8 8	Connection to Cedar at Fifth.
CEDAR STREET: Fifth to First.	66	99 99	2	8 8	Connection with Burrard Bridge (99').
29. CEDAR STREET: Sixteenth to Fifth	66	80	2	6	
30. FIR STREET: Sixteenth to Third	66	66	2	4	Northbound traffic recommended Fir to Granville via Sixth; southbound via Third Avenue.
31. GRANVILLE STREET SOUTH: Sixteenth to Bridge	80	100	6	8	
Granville Bridge	42	100	4	8	To be rebuilt in old location.
32. HEMLOCK STREET: Sixteenth to Sixth	66	66	3	4	
33. OAK STREET: Sixteenth to False Creek	80	80	2	6	To be extended in the future across False Creek to Distributor Street.
34. CAMBIE SOUTH: Sixteenth to Broadway.	80	100	6	8	
Broadway to Bridge	80	100	6	8	
Bridge	44		4		Northerly end of Bridge to be diverted to Smithe St.
35. MAIN STREET: Twenty-fifth to Eighteenth	86	86	6	6	Improve alignment between Eighteenth and Seventh Avenues.
Sixteenth to Alexander	99	99	6	8	

36. FRASER SCOTT—

FRASER AVENUE:
Twenty-fifth to Kingsway

99 99 80 4 8 6

New connection to Scott Street.

SCOTT STREET:
Fifteenth to Broadway

66 80 4 6

NORTH AND SOUTH STREETS FROM WEST TO EAST
(North of False Creek)

NAME OF STREET	WIDTHS IN FEET		TRAFFIC CAPACITY (In Lines of Vehicles)		REMARKS
	Present	Proposed	Present	Proposed	
37. BIDWELL STREET: Beach to Georgia.....	66	80	3	6	Widening on west side only.
38. BURRARD STREET: Bridge to Burrard Inlet.....	99	99	4	8	
39. GRANVILLE STREET: Bridge to Cordova Street.....	80	80	6	6	Existing 51' roadway permits of bare 6 lines of traffic.
40. RICHARDS STREET: Pacific to Georgia..... Georgia to Hastings..... Hastings to Water.....	66	66	4	6	
	66	66	4	6	
	66	66	4	6	
41. DISTRIBUTOR STREET—					
PACIFIC STREET: Granville to Homer.....	66	120	4	10	Grade separation in the future at Granville Street. Connection to Homer Street at Drake.
	...	120	...	10	

NORTH AND SOUTH STREETS FROM WEST TO EAST
(North of False Creek)

NAME OF STREET	WIDTHS IN FEET		TRAFFIC CAPACITY (In Lines of Vehicles)		REMARKS
	Present	Proposed	Present	Proposed	
	HOMER STREET: Drake to Nelson.....	66	120	4		10	Connection to Cambie Street at Robson.
	....	120		10	
CAMBIE STREET: Robson to Pender	66	120	4	10	
Pender to Water	66	66	4	4	
42. GORE AVENUE: Waterfront to Georgia	66	80	4	6	
43. HEATLEY AVENUE: Georgia to Alexander	66	80	2	6	
Alexander to Waterfront	66	80	4	6	

NORTH AND SOUTH STREETS FROM WEST TO EAST
(East of False Creek)

44. CLARK DRIVE: Twenty-fifth to Fifteenth.....	66	80	2	6	
Fifteenth to Burrard Inlet	80	80	2	6	
45. VICTORIA DRIVE: Sixteenth to Twelfth	66	80	2	6	
Twelfth to Powell	66	80	4	6	
46. NANAIMO STREET: Twenty-ninth to Wall	99	99	2	8	
47. NEW DIAGONAL	....	100	..	8	New street Grandview Highway and Twelfth to Cassiar and Union.
CASSIAR STREET: Union to Fton	99	99	2	8	

BRIDGEWAY: Eton to Second Narrows Bridge	20		2	—
48. ATLIN-RENFREW				
ATLIN STREET: Twenty ninth to Connection	66	80	2	6
RENFREW STREET: Twenty-third to Wall	99	80	2	6
		99	2	8
49. RUPERT STREET: Twenty ninth to Napier	99	99	2	8
50. BOUNDARY ROAD: Twenty ninth to Edinburgh	132	132	2	6

Connection to Renfrew at Twenty-third.

MAJOR STREET CAPACITIES.

(Present and Proposed) Plates 8-9-10, Insert.

The importance of a street to the community is determined by the number of lines of traffic it carries.

On the Major Street Plan there are indicated the streets that are considered to be of sufficient width and in the major street description are given the present and proposed roadway widths. A wide street may have a narrow roadway, which can be increased at comparatively small expense to accommodate the number of lines of traffic expected. Other streets, forming part of the future major street system, are too narrow both in street and roadway width, and consequently must be widened.

To show these conditions in a graphic manner, maps have been prepared, as illustrated in Plate 9, page 44. It should be noted that the capacities in A and B do not involve street widening, but that in order to bring about the capacities in C, certain street widenings are required.

EVOLUTION OF THE MAJOR STREET PLAN.

(Plate 11).

On the accompanying plate the first study indicated as Plan "A" shows all the existing streets in the area under consideration. The lack of continuity in many of the streets is again made evident. Those existing streets which already function as main traffic ways and which are proposed as major streets, or portions of major streets, are shown in Plan "B". In so far as possible, existing streets have been suggested as major streets. To link together these disconnected arteries and to effect a complete system of major streets, new openings and connections are necessary, as shown in Plan "C". A combination of Plans "B" and "C" produces Plan "D", which illustrates the entire proposed major street system.

BUSINESS DISTRICT.

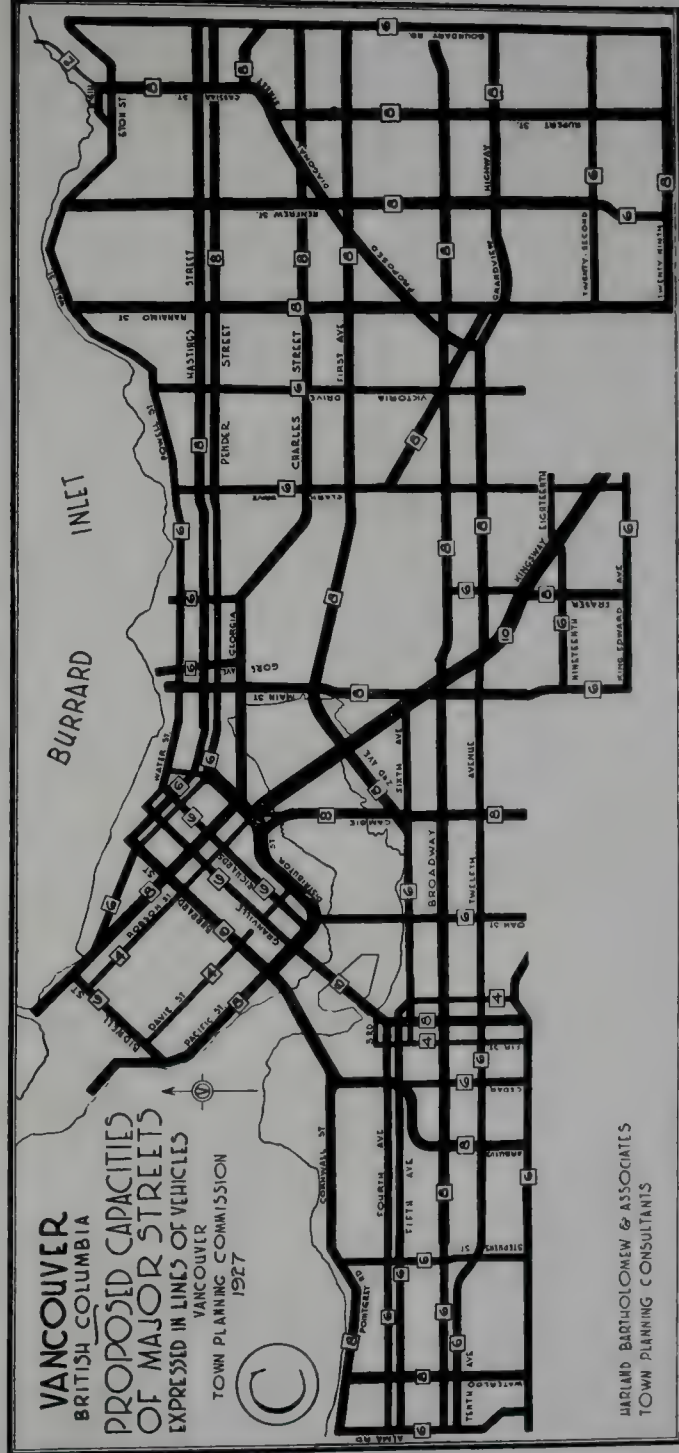
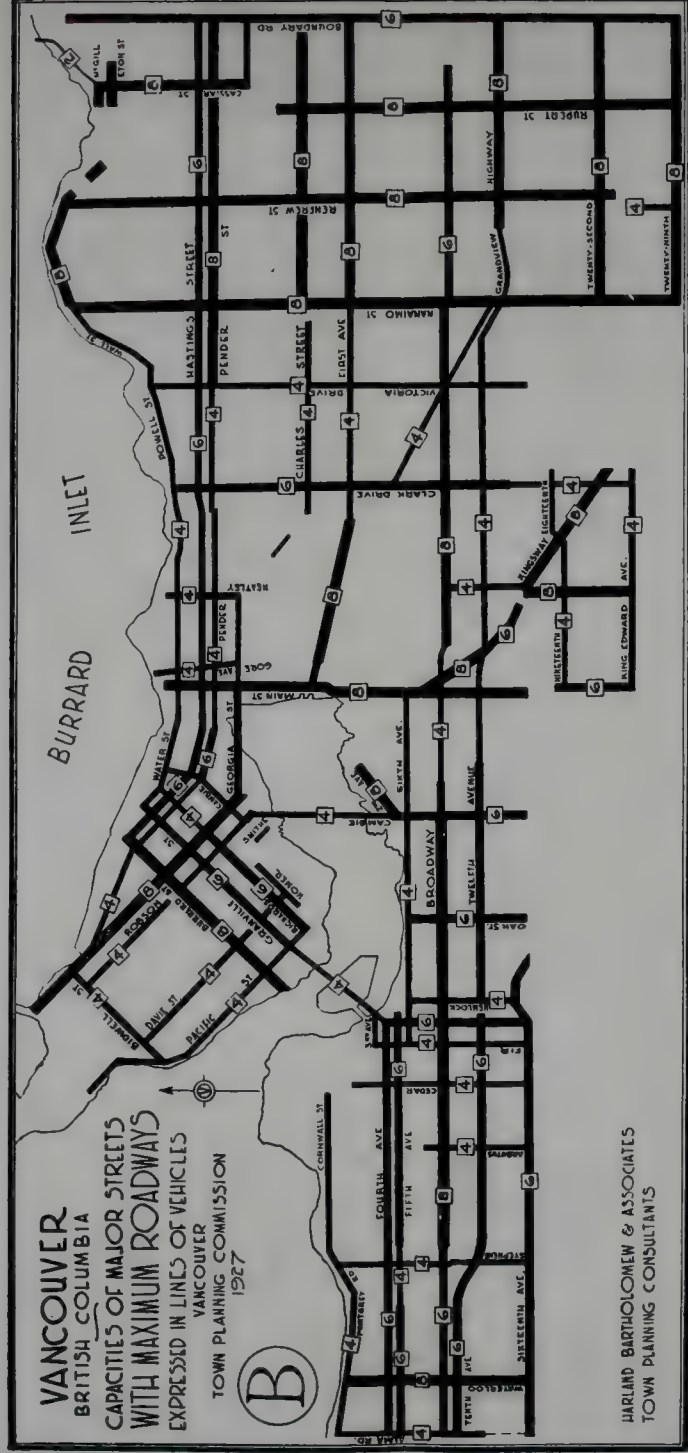
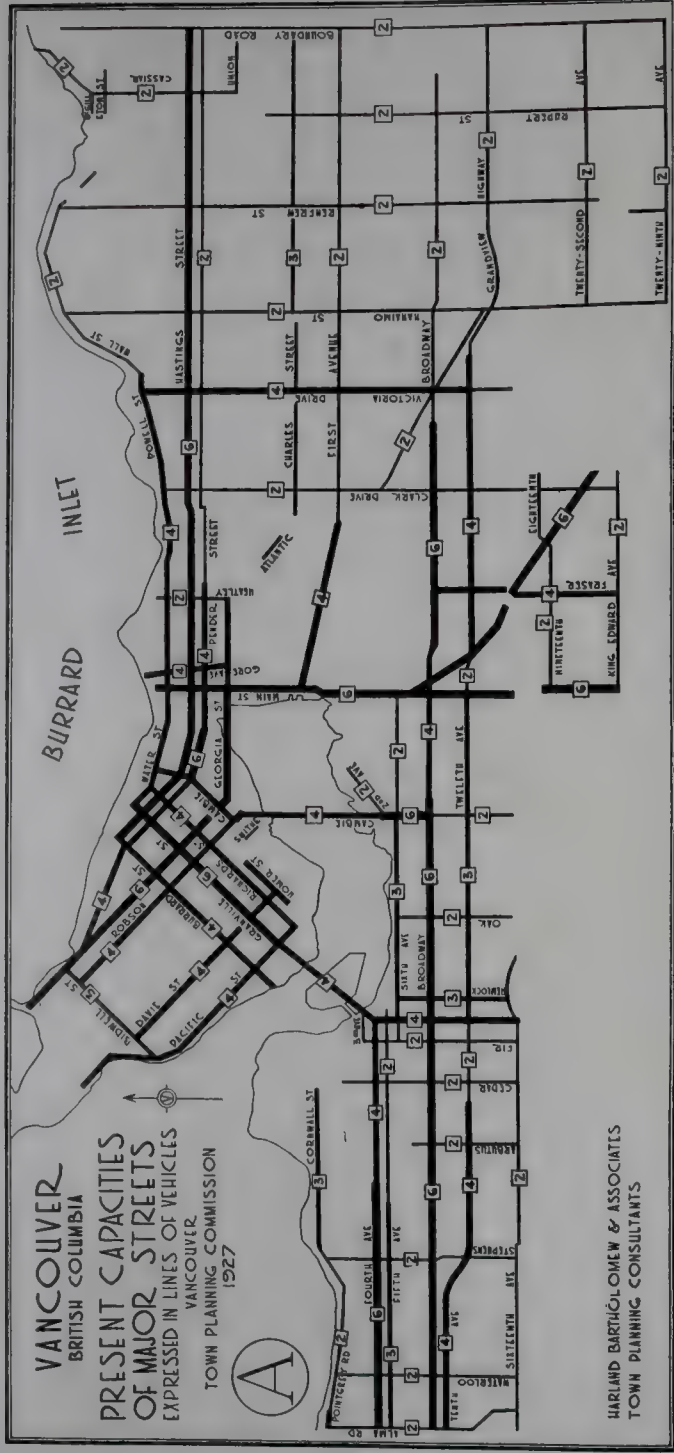
LOCATION OF BUSINESS CENTRE.

(Plate 12, Page 60).

As Vancouver grows the present business district will expand. The ultimate centre of business values will be at a point most nearly focal to the various streams of traffic (vehicular and street car) coming from all parts of the city. A study of the main approach thoroughfares to the north, south, east and west, would indicate that the centre of the future business district has already reached its logical location at the intersection of Granville and Georgia Streets, unless there should be an unusually great unbalancing of the present street structure, which is improbable.

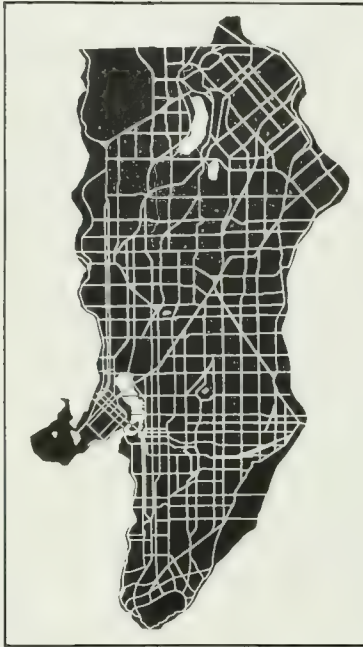
It has been suggested that False Creek might be filled and become the central business district, or that the entire business district might shift to the south side of False Creek; that both of these suggestions were economically impracticable was indicated by the preliminary studies. Further studies made on the railway, harbour and industrial phases, confirm this conclusion. To entirely fill False Creek would be extremely expensive and would involve an enormous sacrifice of values now established. Its desirability is doubtful from either the standpoint of economy or practicability.

The ideal business district is a gridiron into which traffic from all sections of the city is fed in an uniform manner, the point of entry to the business district corresponding





PLAN "B" - EXISTING STREETS USED AS MAJOR STREETS



PLAN "D" - MAJOR STREET SYSTEM



PLAN "A" - EXISTING STREETS

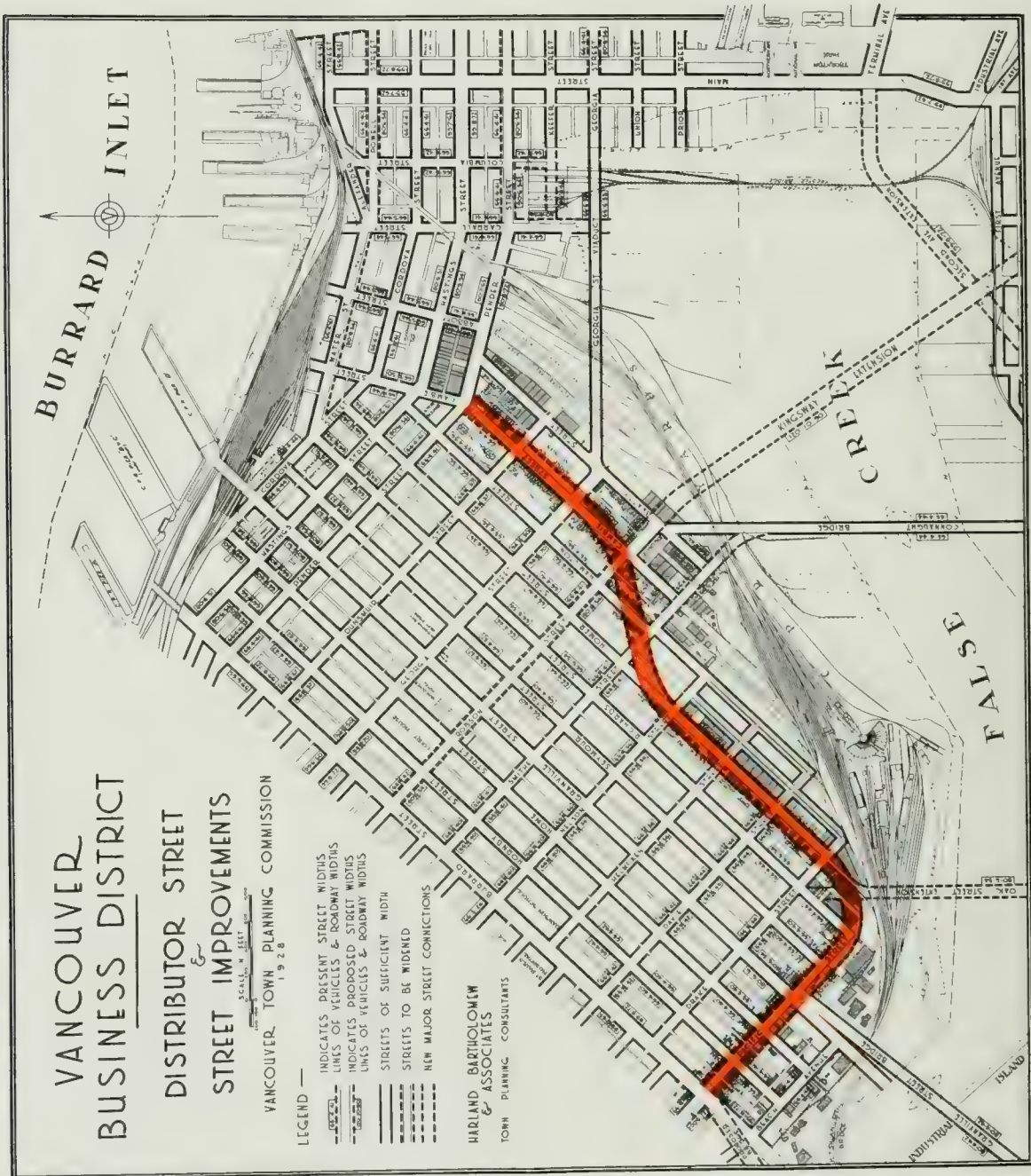


PLAN "C" - PROPOSED CONNECTIONS AND EXTENSIONS OF MAJOR STREETS

EVOLUTION OF THE MAJOR STREET PLAN

HARLAND BARTHOLOMEW & ASSOCIATES
TOWN PLANNING CONSULTANTS

VANCOUVER,
TOWN PLANNING COMMISSION
1927



**VANCOUVER
BUSINESS DISTRICT
DISTRIBUTOR STREET
&
STREET IMPROVEMENTS**

VANCOUVER TOWN PLANNING COMMISSION
1928

- LEGEND —
- INDICATES PRESENT STREET WIDTHS
 - INDICATES PROPOSED STREET WIDTHS
 - INDICATES VEHICLE & ROADWAY WIDTHS
 - INDICATES PROPOSED VEHICLE & ROADWAY WIDTHS
 - STREETS OF SUFFICIENT WIDTH
 - STREETS TO BE WIDENED
 - NEW MAJOR STREET CONNECTIONS

HARLAND BARTHOLOMEW
&
ASSOCIATES
TOWN PLANNING CONSULTANTS

Plate 12

as nearly as possible to the geographical position of the area in which the traffic originates. The present business district of Vancouver is more or less of a gridiron and of ample size to serve the needs of a city considerably in excess of one million population.

Plate 11 indicates the existing principal traffic ways entering the business district.

1. Georgia Street West, with traffic from the West End.
2. Granville Street Bridge, from the University Endowment Lands, Point Grey and some areas across the North Arm of the Fraser River.
3. Connaught Bridge, from South Vancouver and from across the Fraser River and some of the traffic from and between New Westminster.
4. Georgia Viaduct bringing, via Main Street, traffic from South Vancouver, Burnaby and New Westminster.
5. Hastings Street, with traffic from Hastings Townsite, the Barnet Road and the Second Narrows Bridge.

Certain new entries for purposes of more uniform distribution will be desirable, such as the proposed Burrard Street Bridge, an extension of Kingsway from its present terminus at Main Street across False Creek to the intersection of Robson and Beatty Streets, and possibly, in the future, a high level bridge on the northerly production of Oak Street.

STREET IMPROVEMENTS.

(Plate 12, Page 60).

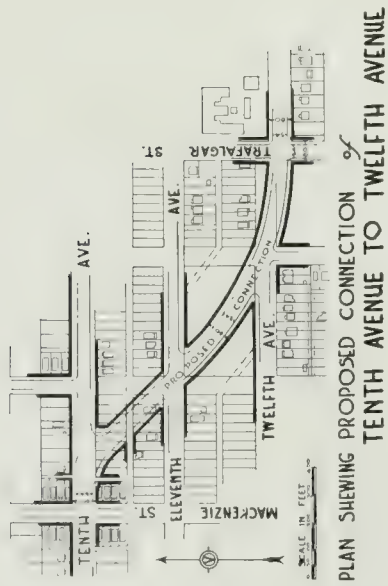
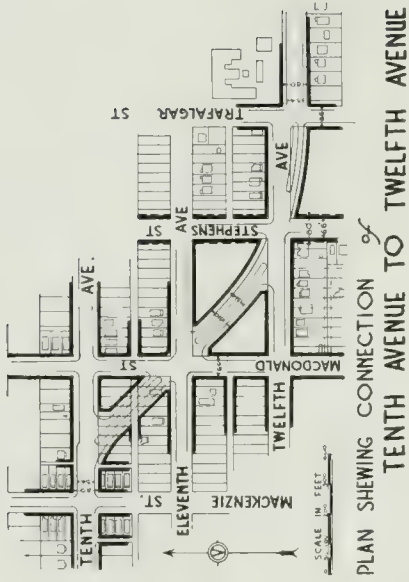
It cannot be said that Vancouver compares very favourably with other cities in regard to area of roadway space in the business district, yet with its present desirable layout and streets of comparatively reasonable widths, that will permit, in many cases, of greater roadway widths, it is considered that the only major improvements necessary are the provision of what has been termed the "Distributor" street, and the widening of Robson Street, between Burrard and the proposed Kingsway Viaduct. The Distributor Street, it is suggested, should be 120 feet wide, so that it may expeditiously distribute entering radial traffic into the business district gridiron. This street will also facilitate the movement of traffic desirous of passing around this area.

The importance of this improvement cannot be too highly emphasized.

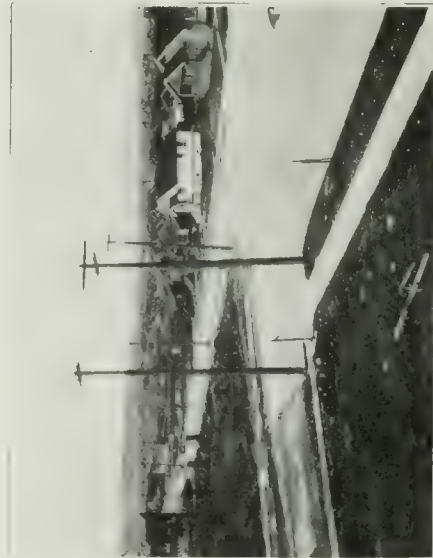
On the same plate are also shown throughout the district the present street width, the number of lines of traffic accommodated, and the present width of roadway between curbs, together with the proposed future width, the number of lines of traffic to be planned for and the width of roadway necessary to take care of same.

PARKING REGULATIONS.

The parking of automobiles is a problem which every city has sooner or later to face. Parking regulations are seldom obeyed to the letter. For example, where hour parking is permitted cars often remain for a much longer period, the owner thoughtlessly or purposely taking the risk of being fined for non-observance of the regulation. The difficulty of strictly enforcing such regulations is an argument for the entire prohibition of parking on the streets in down town business districts. Provision under either municipal or private auspices should be made for adequate parking space within buildings or upon vacant land or open spaces rather than upon public streets, which should be entirely free for moving



After Improvement.



Before Improvement

Tenth to Twelfth Avenue Connection.

traffic. But, until parking in the congested areas becomes sufficiently formidable a problem to warrant its prohibition entirely, there are numerous measures that can be adopted to advantage.

1. Prohibition of parking on street car streets where the roadway can accommodate less than six lines of traffic.
2. Prohibition of parking on designated thoroughfares in the congested districts in the morning and evening rush hours.
3. Adjusting the roadway width to traffic lanes and providing curbs of greater radius at street intersections.
4. Elimination of the left turns at busy intersections and the permitting of only right-hand turnouts from lanes or alleys, oil stations, and the like.
5. Installation of automatic control lights at important intersections. In connection with this suggestion, it might be mentioned that both the cities of Seattle and Tacoma have adopted such a system, and the traffic in Vancouver has reached the point where some such control is required. Pedestrians should be required to obey the traffic signals as well as vehicles.
6. Provision and enforcement of regulations requiring a dead stop on streets intersecting a main thoroughfare.

MAJOR STREET CORRECTIONS.

Numerous plans have been made for the elimination of jogs and other defects and for desirable improvements at particular points and places. Sketches showing all proposals are on file for future reference. Though noted in a general way in the list of street description, some of the more important proposals might be particularly mentioned.

A: In Vancouver.

B: At Point Grey Boundary.

C: At South Vancouver Boundary.

LIST OF SUGGESTED MAJOR STREET CORRECTIONS.

A: VANCOUVER.

I. TENTH AVENUE TO TWELFTH AVENUE.

As originally planned, the connection between Tenth and Twelfth Avenues provided for the closing of McDonald Street between these avenues so that a six-point intersection would be avoided at 11th Avenue. The connection has been made as shown by plan and photograph, the jog at 12th Avenue and Trafalgar being eliminated. McDonald has not been closed, the difficulty of closing streets, as evidenced by past experience, being the reason given by civic officials.

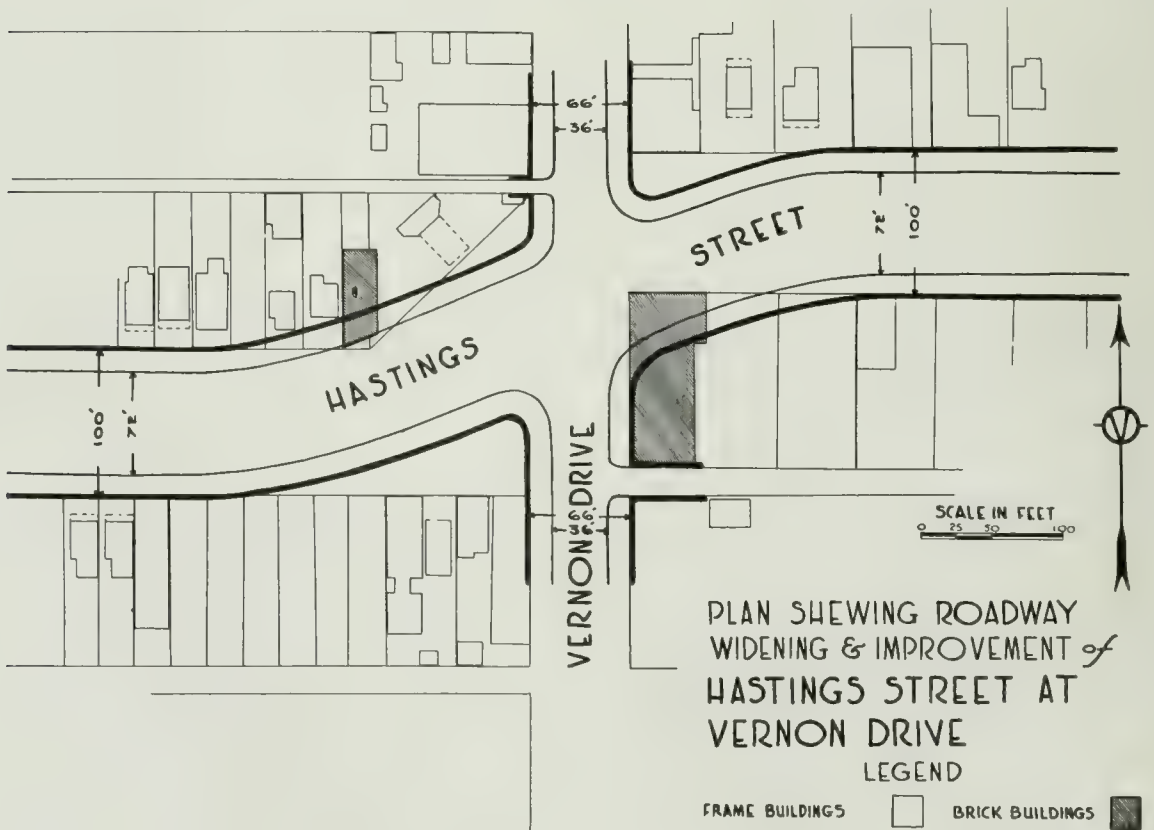
In the preliminary Major Street Plan, Trafalgar Street was indicated as a major Street. When considering the plan with the civic committee, McDonald was suggested as an alternative on account of better grades. As now used by traffic, it becomes apparent that the six-point intersection referred to needs protection by stop signs and that no other major street should enter at this point. Stephens Street is now recommended as the major street; while not as level as McDonald, it is not so irregular as Trafalgar and not nearly so steep at its northern end. Stephens provides a reasonable grade for transit lines.



*Hastings Street and Vernon Drive.
Further Improvement is Required Here.*

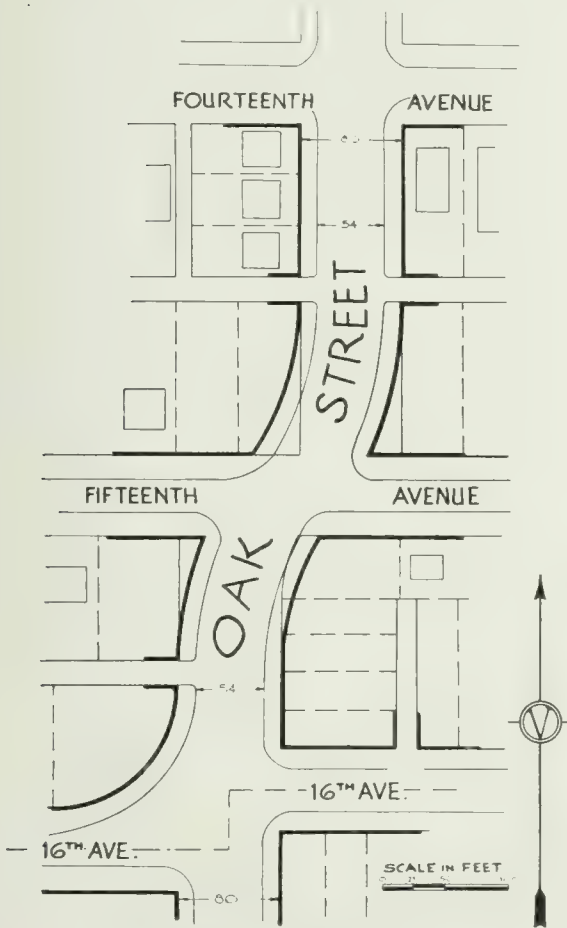


*Fog at Oak Street and Fifteenth Avenue.
Recommended for Improvement.*



2. HASTINGS STREET AT VERNON DRIVE.

The suggestion made for the improvement of this jog is one that should undoubtedly be carried out at an early date. The original jog was even worse than at present. It is but one of many that exist in this vicinity, due to the fact that the streets in the subdivision to the east do not meet the streets from the west—bad planning. When an attempt was made to correct the condition, not enough property was taken to provide a roadway of suitable curvature—bad replanning. Even after the recommendation was brought to the attention of Council, an impending paving programme was carried out without change in alignment.



PLAN SHEWING
IMPROVEMENT OF JOG
OAK STREET AT SIXTEENTH AVE.

3. BROADWAY AT PRINCE EDWARD STREET. (Page 67).

The jog only partly corrected in the vicinity of this intersection should be further improved when the widening of Broadway between Cambie and Prince Edward is carried out.

4. KINGSWAY AT FRASER STREET AND FIFTEENTH AVENUE.

Considerable attention has been given to traffic conditions at this point, and it has been decided that it is advisable to connect Fraser Avenue with Scott Street by an 80-foot connection and to widen Kingsway on the south side of the block west of Fraser Avenue.

5. OAK STREET AT FIFTEENTH AVENUE.

The recommendation as to the correction of the offset in Oak Street is to be carried out, surveys having been made and the necessary property secured by the city.

6. TWELFTH AVENUE AT COLUMBIA STREET.

There still exists a jog at this point which should be eliminated when the widening of 12th Avenue is effected.

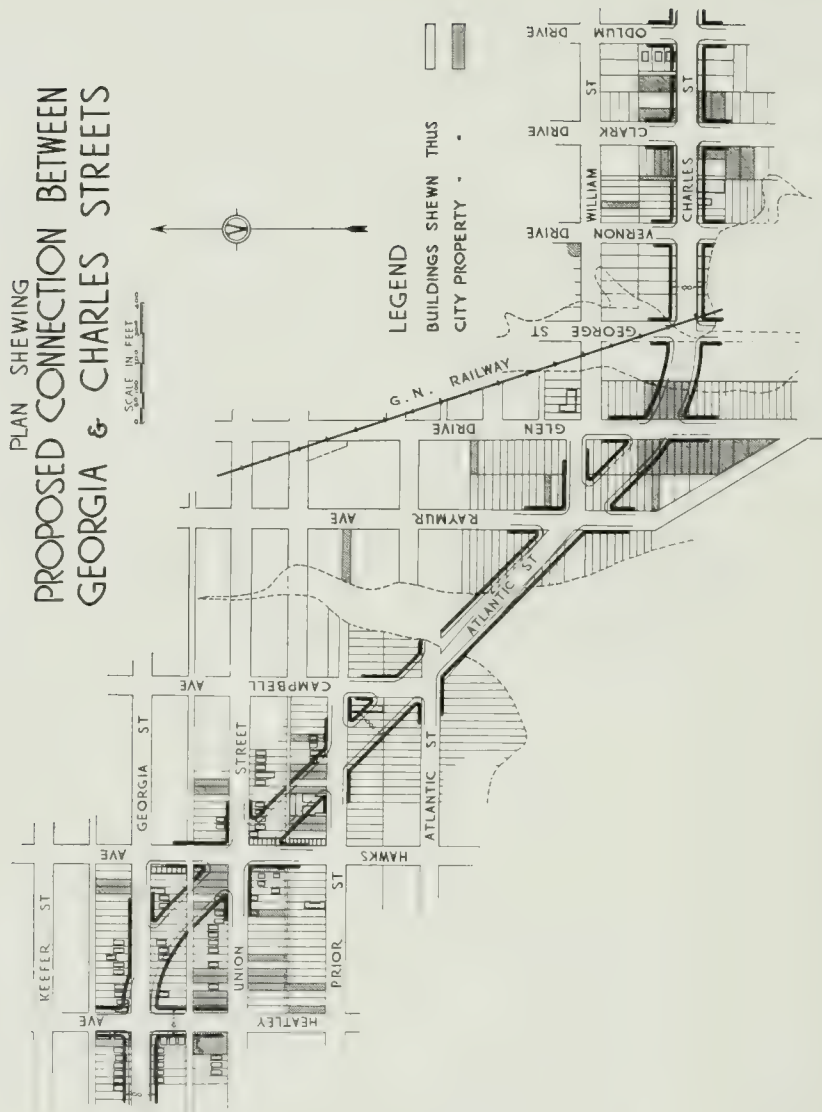
7. SIXTH AVENUE TO FIFTH AVENUE BETWEEN HEMLOCK AND GRANVILLE.

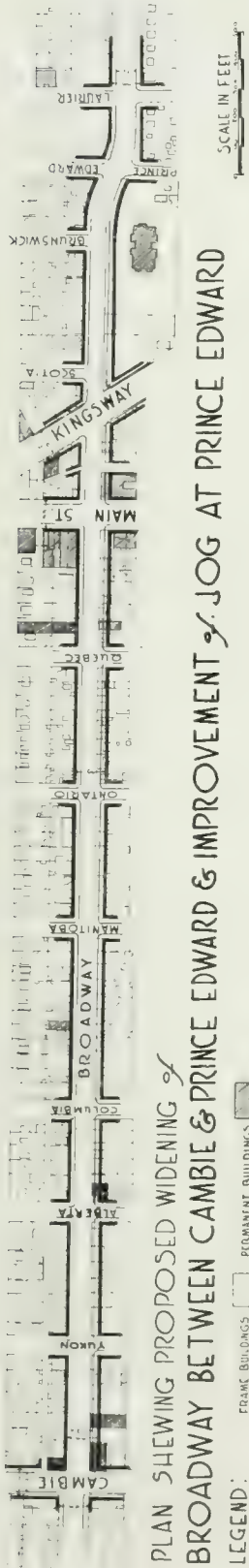
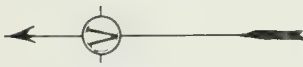
This short diagonal will not only serve to join the two first mentioned streets, so as to form a continuous east and west major street, but will also provide access to Granville from the parallel street, Hemlock, before traffic reaches the Granville Street Bridge.

PLAN SHEWING IMPROVEMENT OF JOG AT
VENABLES & COMMERCIAL DRIVE



PLAN SHEWING
PROPOSED CONNECTION BETWEEN
GEORGIA & CHARLES STREETS





PLAN SHEWING PROPOSED WIDENING & IMPROVEMENT OF JOG AT PRINCE EDWARD & BROADWAY BETWEEN CAMBIE & PRINCE EDWARD

8. **BROADWAY AT NANAIMO STREET.**
There is a jog in the street system that should be improved at this point.

9. **CONNECTION, ARBUTUS TO CEDAR. (Page 68).**
The approach to the proposed Burrard Street Bridge from the south is via Cedar Street. The natural approach from Point Grey is Arbutus Street, planned as an arterial highway. To connect Arbutus and Cedar it is proposed to parallel the railway tracks, thus providing a desirable grade and at the same time avoiding the crossing of the tracks.

10. **NINETEENTH AVENUE TO EIGHTEENTH AVENUE AT KINGSWAY.**
Forming part of an important east and west artery, a right angle crossing of this major street at Kingsway can be obtained by changes on the south side of Kingsway.

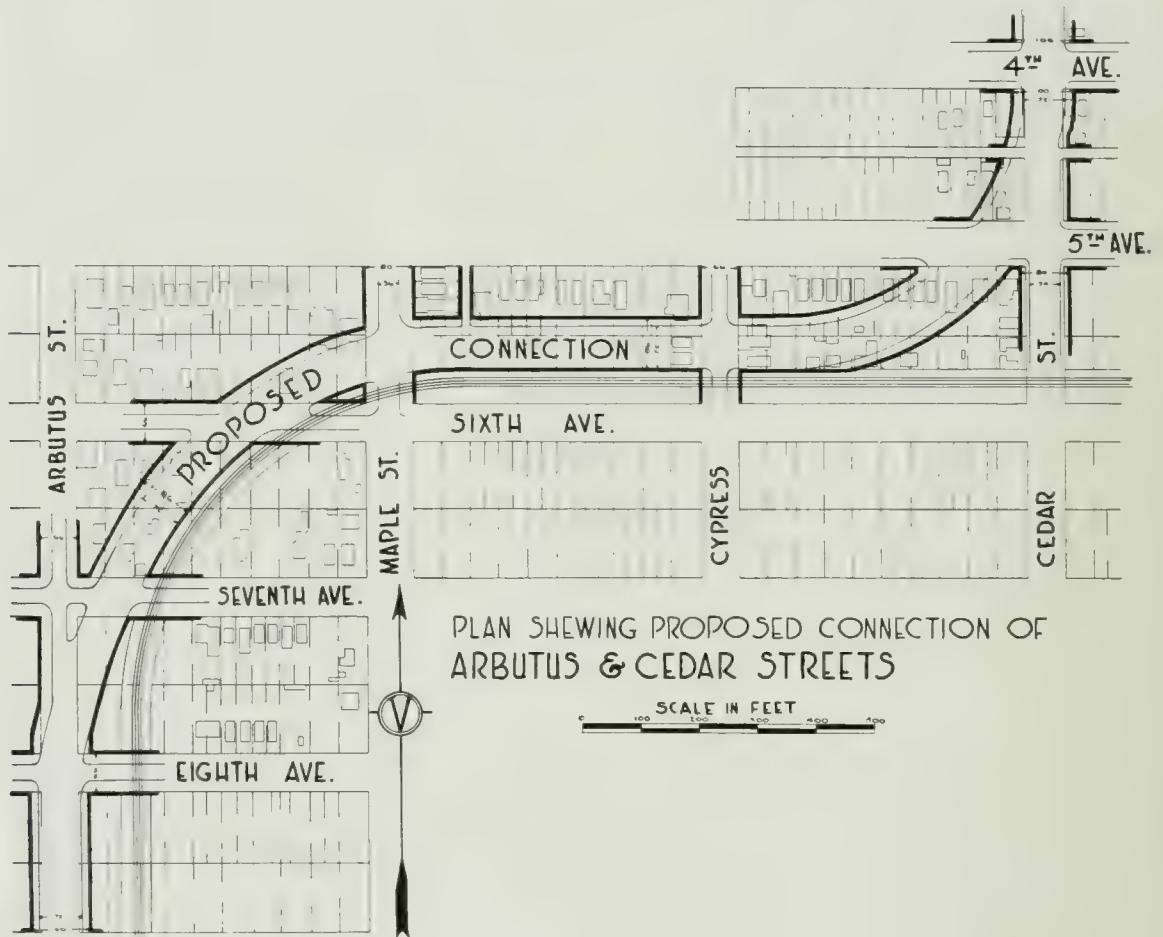
11. **CLARK DRIVE AT FIFTEENTH AVENUE.**
When Clark Drive south of 15th Avenue is widened the jog should be improved as much as possible.

12. **IMPROVEMENT OF JOG AT VENABLES AND COMMERCIAL DRIVE. (Page 66).**
Commercial Drive has developed, and is still further developing as a fine commercial street, but it is handicapped by poor approaches from both the south and the north. The suggestion shown is one that should materially assist in the improvement of the street. Commercial Drive is not a major street.

13. **CUT-OFF—UNION TO DOUGLAS ROAD AT BOUNDARY ROAD.**
This diagonal is suggested through the property of the Old People's Home.

14. **CORNWALL STREET AND POINT GREY ROAD AT TRAFALGAR STREET.**
The first two named streets should form a continuous thoroughfare. A jog of some 100 feet has been partially corrected by acquiring part of the lot on the southwest corner of Point Grey Road and Trafalgar.

15. **CONNECTION BETWEEN GEORGIA AND CHARLES STREET. (Page 66).**
Georgia and Charles form portions of an important cross-town major street and should be connected as illustrated between Heatley Avenue and George Street.



B: AT POINT GREY BOUNDARY.

1. ARBUTUS STREET AND SIXTEENTH AVENUE.

The jog in Arbutus Street at this intersection should be eliminated when Arbutus Street is being widened and improved as an arterial highway.

2. SIXTEENTH AVENUE AND MARPOLE CONNECTION AT GRANVILLE STREET.

When widening Marpole Avenue care should be taken to secure sufficient land at the junction with Granville Street to provide a good connection with 16th Avenue at this point.

3. TRAFALGAR STREET AT SIXTEENTH AVENUE.

At this intersection there is a jog at both streets which should be eliminated before any building takes place.

C: AT SOUTH VANCOUVER BOUNDARY.

1. MAIN STREET AT EIGHTEENTH AVENUE.

The offset in Main Street should be materially improved by changes as outlined in the study made. Buildings on the east side where widening is contemplated might be moved back further east by closing the lane and by the acquisition of some property.

2. NINETEENTH AVENUE AT MAIN STREET.

In carrying this major street across Main Street at this point, it would be necessary to eliminate the jog.

3. NINETEENTH AVENUE IN SOUTH VANCOUVER TO 22ND AVENUE IN VANCOUVER AT NANAIMO STREET.

This short connection is necessary to provide for a continuous major street between Grandview Highway (13th Avenue) on the north and 29th Avenue on the south.

STUDIES FOR REPLOTTING NORTH-EAST PORTION OF HASTINGS TOWNSITE.

EXISTING LAYOUT AND GRADES.

(Plate 13, Page 70).

The portion of Hastings Townsite under consideration is bounded by Boundary Road, Cambridge Street, Cassiar Street, Bridgeway and the Canadian Pacific Railway right-of-way. Within these limits there are at present thirty-nine (39) acres in lots, with twenty-three (23) acres in interior streets and lanes, and approximately eleven (11) acres for bounding streets that serve the area, or seventy-three (73) acres in all. In this subdivision only thirty-nine (39) acres are in lots, or $53\frac{1}{2}\%$ of the total area, the balance of $46\frac{1}{2}\%$ being in streets, as there are no parks.

There is a difference in elevation from the lowest part to the highest part of the area of nearly 250 feet. In one distance of 850 feet there is a rise of 200 feet and in a portion of this 850 feet a rise of 50 feet in a distance of only 100 feet.

On the area there are at present some sixty-six (66) houses. A few of these might be termed expensive structures, but the majority are comparatively inexpensive, and it is understood that but few have permanent foundations.

The subdivision is particularly unfortunate, on account of the unnecessarily wide streets, which are ninety-nine (99) feet in width, and of the excessive and prohibitive street grades.

REPLOTTING.

The object of the replotting, as shown on the accompanying plan, is to correct, in so far as possible, the subdivision defects mentioned.

The contours and other topographical information have been supplied from the office of the City Engineer and the Surveyor-General of British Columbia.

Consideration in the design has been given to the following matters:

- (1) The provision through the area of an east and west major street of eighty (80) feet in width to form part of the proposed "Marine Drive".

As a part of this major street there is shown a westerly connection by Eton Street to a "Y" intersection at Windermere, the north-easterly fork of which leads directly to the Second Narrows Bridge approach. The new proposed major street is shown connecting with Edinburgh Street in the Municipality of Burnaby, which street it is suggested should also be widened to eighty (80) feet.

The street section proposed is one of two roadways of eighteen (18) feet, (each of which might be designed for one-way traffic) separated by an eighteen (18) or twenty (20) foot central boulevard. To save expensive side hill grading costs these roadways, except at intersections, might, for the greater part of their length, be constructed at different elevations.

- (2) A secondary fifty (50) foot street with proposed twenty-seven (27) foot roadway from near Cambridge and Cariboo intersection to connect with Yale Street in Burnaby.

The grade is not quite as good as the proposed eighty (80) foot thoroughfare, but it makes provision in the scheme for local cross traffic, and while the grade is steeper the natural street cross section is consequently more nearly level and would allow for a level twenty-seven (27) foot roadway width without expensive side hill grading. Such a roadway allows for two lines of traffic and one parked vehicle.

- (3) Local streets forty (40) feet in width with an eighteen (18) foot roadway and generally at nearly level grade.

These streets, as proposed, are in general spaced a lot depth (from 120 to 130 feet apart) with the object of supplying shallow sewers for but one row of houses, that is; only those houses constructed above the level of the street and to which properties access is provided at the rear by the next street above.

It should be noted that the existing streets of Cariboo and Kootenay (on the latter there is a hard surface) though narrowed, have been retained.

The grades of proposed streets, according to the natural ground levels, would be approximately as shown in Table 2.

In general, the grades of local streets are nearly level. The greatest difficulty was found in providing access to properties in the vicinity of an existing house just north of East Street. Between this house and Boundary Road natural grades up to 13% are encountered, but can be reduced by cutting and filling. With this exception, all other streets do not exceed a natural 10% grade. This figure should be compared with the existing 25% grades.

INCREASE IN LOT AREA.

As previously mentioned, there are at present thirty-nine (39) acres in lots. Besides providing desirable access and a saving in the cost of installing utilities, the proposed replotting provides forty-four (44) acres in lots, or an increase of five (5) acres. The necessity of lanes disappears with the scheme of double-fronted lots, but footpaths ten (10) feet in width are suggested to break up the long blocks for pedestrian traffic.

Sufficient study has been made to show that lot lines normal to the street lines can be established, which, in general, will take in the existing buildings. Of the sixty-six (66) existing houses it is found that ten lie within the new street limits. At least six (6) others should be moved to provide for a regular lot layout and about three (3) others, if moved, would be improved in location on the new lots. As mentioned, few of the houses have permanent foundations. From the experience of replotting in Point Grey, the average cost of moving a house under similar conditions is not over \$500.00.

In these studies new lot lines have not been shown, as this becomes, to some extent, a matter of negotiation with the owners.

EXISTING MUNICIPAL IMPROVEMENTS.

As the pavement on Kootenay Street can be retained, and although Cambridge Street is suggested to be narrowed, there would be no necessity for interference with the present roadway, on which some improvements have been made. The greatest change would be the relocation of poles for electrical and telephone wires. Most of the existing water mains could be taken care of by easements through new lots. In the proposed subdivision no existing sewers are interfered with.

Table 1. EXISTING STREET GRADES

	<i>From</i>	<i>To</i>	<i>Max. Grade</i>
McGill Street.....	Cassiar	Cariboo	9%
	Cariboo	Kootenay	18%
Trinity Street.....	Cassiar	Cariboo	12%
	Cariboo	Kootenay	20%
Yale Street.....	Cariboo	Kootenay	25%
Cambridge.....	Kootenay	Boundary	Over 12%

PROPOSED STREET GRADES

			<i>Average</i>	<i>Natural Maximum</i>
80-foot Major Street.....	Cassiar	Boundary	6.5%	8.5%
60-foot Secondary Street.....	Cambridge	Boundary	7.3%	9.1%
Most 40-foot Streets (nearly level).				
40-foot Street.....	Cariboo	Boundary	6.3%	10%
40-foot Street.....	Cassiar	Boundary	8.7%	13%
Kootenay Street.....	Major Street northerly			10%
Cambridge Street.....	Unchanged (See Table 1)			

GENERAL.

The area north of Cambridge and west of Cariboo is not as steep as the rest of the area. It is felt, however, that it will be improved by a treatment harmonizing with the suggested treatment for the steeper area, where the street grades are such that replotting is imperative.

Since the replotting scheme was proposed legislation has been passed to make such replotting easy of accomplishment. This legislation was based on a Point Grey Special Act, which had reference to particular areas only in that municipality.

The replotting legislation, now a part of the British Columbia Town Planning Act, permits a Council to have a scheme of replotting prepared; it can be carried out only if the owners of three-fifths of the privately owned parcels agree to the scheme. The effectiveness of the legislation is dependent on the employment by the municipality of an official entirely sympathetic to and fully informed of the scheme to point out to each owner just what effect the scheme would have on his particular property, the general advantages to be derived therefrom, the saving in cost of constructing utilities, as well as the cost of the scheme and the proportion to be borne by the municipality, which, as well as the individual, is generally greatly benefitted by the replotting.

POINT GREY REPLOTTING.

(Plate 14, Page 74).

Experience in Point Grey is valuable. It indicates that a Council might assume all, or nearly all, the cost of a replotting scheme, as the increase in property values, due to the replotting, soon pays for the development, which can, of course, be more cheaply provided with utilities, thus effecting additional public and private saving.

Altogether four replotting schemes have been, or are being, carried out in Point Grey. In most instances the consents of all resident owners have been fully obtained, though it sometimes took a number of visits from the "negotiator" to accomplish this. In only one case was an objector eventually dissatisfied.

It would seem, in the light of Point Grey's experience, that with some revision of the scheme, and a change in the methods of promotion, the Hastings Townsite replotting can still be carried out to the advantage of both the private owners and the city.

Relative to cost data in connection with the proposed Hastings Townsite replotting, and with the Point Grey project, the following will be of interest:

HASTINGS TOWNSITE REPLOTTING

North-East Portion

ESTIMATE OF COST (APPROXIMATE)

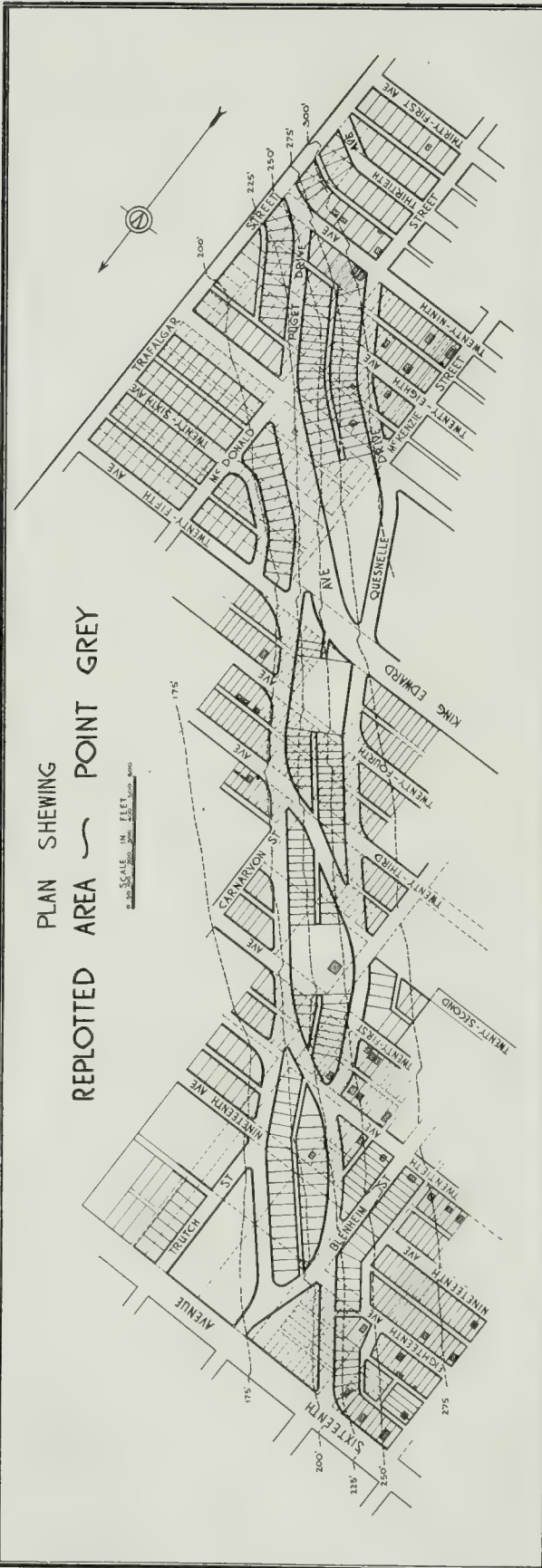
June, 1928

Survey of Area	\$ 1,250.00
Moving Houses (Say 29 houses at \$300.00)	8,700.00
Changing Utilities.....	13,500.00
Road Improvements.....	12,000.00
Compensation (8 corners now allocated to inside lots) 8 at \$300.00.....	2,400.00
Compensation (probable compensation to owners for garden improvement, etc.)	10,000.00

Say \$48,000.00	\$47,850.00

PLAN SHEWING
REPLOTTED AREA ~ POINT GREY

SCALE 1" = 50 FEET



POINT GREY REPLOTTING
ANALYSIS OF COST OF UNDERTAKING

Cost of Preparing Schemes and Carrying Out Surveys:

Obtaining Field Data and Preparing Scheme.....	\$1,040.73	
Blueprints, etc.....	54.08	
Preliminary Surveys.....	379.25	
Final Surveys and Plans.....	2,357.60	
	\$ 3,831.66	
Cost of Private Bill.....		1,367.67
Cost of Registering Titles.....		765.24

Cost of Obtaining Consents:

Salaries.....	\$2,699.66	
Printing, etc.....	177.45	
Solicitors' Costs.....	709.38	
Sundries.....	67.91	
	—	3,654.40

Compensation, etc.:

Clearing Lots.....	\$ 571.25	
Compensation and Awards.....	3,758.34	
Commissioners' Remuneration.....	407.50	
Appeal Expenses.....	360.00	
	—	5,097.09

TRUE COST OF UNDERTAKING..... \$14,716.08

Additional expenditure was also made in the purchase of property in preference to paying compensation, the proportion of which was deemed to increase the assets of the Corporation, being..... \$11,499.92
(These expenditures included the purchase of five dwellings.)

Sales of property made as part of the scheme (including one of the above-mentioned houses) realized..... 5,450.00

Nett Additional Outlay..... \$6,049.92
\$20,766.00

In accordance with the "Point Grey Improvement Act" only the cost of preparing and the surveying the scheme (\$3,831.66) was chargeable against the area, and of this amount the Municipality's share was \$1,968.95, the proportion chargeable to private owners being..... 1,862.71

\$18,903.29
Deduct Increase in Value of Corporation Assets as above..... 6,049.92

NETT COST OF SCHEME TO MUNICIPALITY..... \$12,853.37

POINT GREY MAJOR STREETS

INDEX TO MAJOR STREETS—
POINT GREY

<i>Street Name</i>	<i>Route No.</i>	<i>Street Name</i>	<i>Route No.</i>
Alma Street	5	Hudson Street	17 & 28
Angus Street	15	Imperial Street...	3 & 20
Arbutus Street.....	11	King Edward Avenue...	27
Belmont Avenue.....	20	Larch Street.....	10
Blanca Street.....	1	McDonald Street. .	9
Blenheim Street.....	7	McKenzie Street	8
Broadway	22	Marine Drive....	20 & 36
Cambie Street	19	Marpole Avenue	15
Cedar Crescent.....	14	Nineteenth Avenue.....	25
Cedar Street.....	14	Ninth Avenue.....	22
Connaught Drive.....	28	Oak Street	18
Crown Crescent.....	4	Park Drive.....	33
Crown Street.....	4	Point Grey Road	20
Cypress Street	14	Puget Drive.....	28
Devonshire Crescent.....	28	Quesnelle Drive	8
Douglas Avenue.....	25	Seventy-First Avenue	35
Dunbar Street	6	Sixteenth Avenue	25
East Boulevard.....	13 & 14	Sixty-Fourth Avenue	34
Eighth Avenue.....	22	Sixty-Third Avenue	33
Elm Street.....	10	Tenth Avenue...	24
Fifth Avenue.....	23	Thirtieth Avenue	28
Fifty-Seventh Avenue.....	32	Thirty-Seventh Avenue	29
Fir Street.....	15	Trafalgar Street	10
Forty-First Avenue.....	30	Trimble Street.....	2
Forty-Ninth Avenue.....	31	Twenty-First Avenue	26
Fourth Avenue.....	20 & 21	Twenty-Ninth Avenue	28
Galiano Street.....	26	Twenty-Third Avenue	27
Granville Street.....	16	Wallace Street.....	20
Heather Street.....	33	West Boulevard	11 & 12
		Wolfe Avenue.....	25

TABULATION OF PROPOSED MAJOR STREETS—POINT GREY
NORTH AND SOUTH STREETS (FROM WEST TO EAST)

NAME OF STREET	WIDTHS IN FEET		TRAFFIC CAPACITY (In Lines of Vehicles)		REMARKS
	Present	Proposed	Present	Proposed	
1. BLANCA STREET— 16th Ave. to 4th Ave. ....	...	80	...	6	
2. TRIMBLE STREET— 8th Ave. to Belmont Ave.	66	66	2	4	
3. IMPERIAL STREET— 16th Ave. to 8th Ave.	66	80	2	6	
4. CROWN STREET— Fraser River to 48th Ave.	66	80	...	6	Production of existing street.
48th Ave. to 29th Ave.	66	80	2	6	New connection.
29th Ave. to 25th Ave.	66	80	...	6	Improve jog at 16th Ave.
25th Ave. to 16th Ave.	66	80	2	6	
16th Ave. to 10th Ave.	66	80	3	6	
10th Ave. to Crown Crescent	50	80	2	6	
CROWN CRESCENT (EAST): Crown Street to 8th Ave.	50	80	2	6	
8th Ave. to 4th Ave. ....	...	80	...	6	Production through golf course o Crown Crescent (East) in north-westerly direction.
5. ALMA STREET— Cut off at 12th Ave. to English Bay.	66	80	2	6	
6. DUNBAR STREET— Marine Drive to 41st Ave.	66	80	2	6	
41st Ave. to 25th Ave.	66	80	6	6	
25th Ave. to 16th Ave.	86	86	6	6	Improve jog at 16th Ave.
7. BLENHEIM STREET— Fraser River to Quesnelle Drive	66	80	2	6	

MAJOR STREETS

8. MCKENZIE STREET-QUESNELLE DRIVE—						
MCKENZIE STREET: 41st Ave. to Quesnelle Drive	66	66	2	4		
QUESNELLE DRIVE: McKenzie Street to Blenheim Street						
Blenheim Street to 16th Ave.	66	66	2	4		
	66	132	2	10		widen, providing a new low level road to connect with 16th Ave. and Waterloo Street.
9. McDONALD STREET-PUGET DRIVE						
PUGET DRIVE: 29th Ave. to King Edward Ave.	66	66	3	4		
McDONALD STREET: King Edward Ave. to 16th Ave.						
	66	66	2	4		
10. FIRM ST., LARCH ST., TRAFALGAR ST.						
ELM STREET: Marine Drive to 49th Ave.	66	80	2	6		Improve connection to Larch Street.
49th Ave. to 33rd Ave.	66	80	2	6		
33rd Ave. to Trafalgar St. (South of King Edward Ave.)		80		6		New connection to be provided.
TRAFALGAR STREET: Larch St. Extension to 16th Ave.						
	66	80	2	6		
11. ARBUTUS STREET-WEST BOULEVARD						
ARBUTUS STREET: Marine Drive to 49th Ave.	66	66		4		Improve jog at 53rd Ave.
49th Ave. to 37th Ave.	66	66	3	4		
ARBUTUS STREET: 37th Ave. to 22nd Ave.						
22nd Ave. to 16th Ave.	66	100	2	8		No boulevard on east side.
	66	86	2	8		
12. WEST BOULEVARD						
Angus St. to Arbutus St.	66	66		4		Produce north-westerly to connect with Arbutus St.

NORTH AND SOUTH STREETS (FROM WEST TO EAST)

NAME OF STREET	WIDTHS IN FEET		TRAFFIC CAPACITY (In Lines of Vehicles)		REMARKS
	Present	Proposed	Present	Proposed	
13. EAST BOULEVARD— 71st Ave. to 67th Ave. 67th Ave. to 64th Ave. 64th Ave. to Angus St. Angus Street to 57th Ave. 57th Ave. to 37th Ave.	66 66 33 66 66	66 66 66 66 66	2 2 2 2 2	4 4 4 4 4	New extension. New connection.
14. CYPRESS STREET—EAST BOULEVARD— CEDAR CRESCENT CEDAR STREET— EAST BOULEVARD: 29th Ave. to Cypress St..... CYPRESS STREET: East Boulevard to 19th Ave. CEDAR CRESCENT: 19th Ave. to 17th Ave. CEDAR STREET: 17th Ave. to 16th Ave.	33 66 66 66 66	66 66 66 66 66	2 2 2 2 2	4 4 4 4 4	
15. ANGUS STREET—MARPOLE AVE.—FIR ST.— ANGUS STREET: Marine Drive to 25th Ave. 25th Ave. to Marpole Ave. MARPOLE AVENUE: Angus Street to Fir Street FIR STREET: Marpole Ave. to 16th Ave.	80 80 66 66	80 80 66 66	2 3 6 3 2	6 6 4 4	Open up new road through small park south of Marpole Ave. Make better connection with Fir Street by rounding corner.

16. GRANVILLE STREET— Marine Drive to 16th Ave.	80	100	3 4	8	
17. HUDSON STREET— Fraser River to Park Drive	66	80	2	6	Improve jog at 70th Ave.
Park Drive to 37th Ave.	66	66		4	
37th Ave. to 33rd Ave.	66	66		4	New connection.
33rd Ave. to King Edward Ave.	66	66	3	4	
18. OAK STREET— Fraser River to Marine Drive	66	80	2	6	
Marine Drive to 16th Ave.	80	80	2 4	6	
19. CAMBIE STREET— 59th Ave. to 16th Ave.	80	100		8	Improve diversion around Little Mountain.

EAST AND WEST STREETS (FROM NORTH TO SOUTH)

NAME OF STREET	WIDTHS IN FEET		TRAFFIC CAPACITY (In Lines of Vehicles)		REMARKS
	Present	Proposed	Present	Proposed	
20. MARINE DRIVE-POINT GREY ROAD—					
MARINE DRIVE:					
Municipal Boundary to Blanca St.	80	100	3	8	
Blanca St. to Sasamat St.	100	100	2	8	Improve connection with Belmont Ave.
BELMONT AVENUE:					
Sasamat St. to Imperial St.	66	100	2	8	
IMPERIAL STREET:					
Belmont Ave. to 4th Ave.	100	100	2	8	Round off corner at Belmont Ave. and 4th Ave.
FOURTH AVENUE:					
Imperial Street to diversion northerly near Wallace Street	80	100	2	8	
Wallace Street (new alignment) 4th Ave. to Point Grey Road	100	100		8	
POINT GREY ROAD:					
Wallace St. to Alma St.	66	100		8	

NORTH AND SOUTH STREETS (FROM WEST TO EAST)

NAME OF STREET	WIDTHS IN FEET		TRAFFIC CAPACITY (In Lines of Vehicles)		REMARKS
	Present	Proposed	Present	Proposed	
21. FOURTH AVENUE— Blanca St. to Trimble St. Diversion East of Trimble Wallace St. to Alma St.	80 80 80	80 80 80	2-4 2 2	6 6 6	
22. EIGHTH AVENUE—BROADWAY— EIGHTH AVENUE: Blanca St. to Tolmie St. Tolmie St. to Imperial St. Imperial St. to Crown Crescent (East)	66 66 80	80 80 80	3 2	6 6 6	
NINTH AVENUE: Crown Crescent to Highbury St. Highbury St. to Alma St.	80 66	80 80		6 6	
23. FIFTH AVENUE— Crown Crescent to Highbury St. Highbury St. to Alma St.	66	80 80		6 6	New extension.
24. TENTH AVENUE— Blanca Street to Alma Street	80	80	6	6	
25. SIXTEENTH AVENUE—NINETEENTH AVENUE— SIXTEENTH AVENUE: Blanca St. to Camosun St. Camosun St. to Trafalgar St. Trafalgar St. to Granville St.	66 132 80	100 132 80		6 6 6	
WOLFE STREET: 16th Ave. to Douglas Ave.	66	80	2	6	
DOUGLAS AVENUE: Wolfe St. to Oak St.	66	80	2	6	

NINETEENTH AVENUE: Oak Street to Cambie Street	66	80	2 3	6	
26. TWENTY-FIRST AVENUE— GALLIANO STREET: 20th Ave. to 21st Ave.	66	66		4	
TWENTY-FIRST AVENUE: Galiano St. to Trafalgar St.	66	66		4	New connection.
Trafalgar St. to Yew Street	66	66		4	
Yew St. to Arbutus St.	66	66	3	4	
27. KING EDWARD AVENUE— Camosun St. to Trafalgar St.	132	132		6	
Trafalgar St. to Yew St.	132	132		6	New connection.
TWENTY-THIRD AVENUE: Yew St. to East Boulevard	66	132		6	Crossing V. & L.I. Rly. track.
KING EDWARD AVENUE: East Boulevard to Oak St.	132	132		6	
Oak St. to Willow St.	132 106	132-106		6	
Willow St. to Cambie St.	106	106		6	
28. TWENTY-NINTH AVENUE: Camosun St. to Trafalgar St.	66	80	2	6	
PUGET DRIVE: Trafalgar St. to Larch St.		80		6	New connection.
THIRTIETH AVENUE: Larch St. to Arbutus St.		80		6	New connection.
Arbutus St. to East Boulevard at Twenty-Ninth Avenue		80		6	New connection.
TWENTY-NINTH AVENUE: East Boulevard to Granville St.	66	80	2	6	
CONNAUGHT DRIVE: Granville St. to Hudson St.	66	80	3	6	Intersections to be rounded off at Granville and Hudson Streets.

NAME OF STREET	WIDTHS IN FEET		TRAFFIC CAPACITY (In Lines of Vehicles)		REMARKS
	Present	Proposed	Present	Proposed	
	HUDSON STREET: Connaught Drive to Devonshire Crescent	66	80	3		6	Intersection to be rounded off at Devonshire Crescent.
DEVONSHIRE CRESCENT: Hudson St. to Selkirk St....	66	80	3	6	
TWENTY-NINTH AVENUE: Selkirk St. to Cambie St.	66	80	3	6	
29. THIRTY-SEVENTH AVENUE— Comosun St. to Granville St.	66	66	2	4	
Granville St. to Cambie St.	66	66	...	4	
30. FORTY-FIRST AVENUE— Marine Drive to Dunbar St.	66	100	2	8	
Dunbar St. to West Boulevard	66	100	4	8	
West Boulevard to Granville St.	80	100	4	8	
Granville St. to Hudson St.	80	100	4	8	
Hudson St. to Cambie St.	80	100	2	8	
31. FORTY-NINTH AVENUE— Marine Drive to Angus Street	66	80	2	6	
Angus St. to midway between Sperling and Markham Streets	73	80	2	6	
Midway between Sperling and Markham Street to Cambie Street.	80	80	2	6	
32. FIFTY-SEVENTH AVENUE— Marine Drive to Oak St.	80	80	2	6	
Oak St. to Cambie St.	80	80	...	6	
33. PARK DRIVE— Granville St. to Hudson St.	66	80	2	6	
Hudson St. to Fremlin St.	66	66	2	4	

SIXTY-THIRD AVENUE: Fremlin St. to Heather St. Heather St. to Municipal Boundary	66 66	66 66	2 4	4 4
HEATHER STREET: 63rd Ave. to 64th Ave.	66	66	2	4
34. SIXTY-FOURTH AVENUE— Marine Drive to Heather St.	66	66	2	4
35. SEVENTY-FIRST AVENUE— V. & L.I. Rly. to Marine Drive near Logan Avenue	66	100	2	8
36. MARINE DRIVE West Municipal Boundary to McDonald Street	66	100	2	8
McDonald St. to Elm St.	66	100	2	8
Elm St. to Angus St.	66	100	2	8
Angus St. to 71st Ave.	66	100	2	8
71st Ave. southerly to Marine Drive	66	86	2	8
V. & L.I. Rly. (at Cornish St. to Hudson Street)	66	100	2	8
Hudson St. to Oak St.	80	100	2	8
Oak St. to East Municipal Boundary	66	100	2	8

New connection.

New connection.

New connection; no boulevard alongside the Van
couver & Lulu Island Railway track.

TRANSIT

INTRODUCTION.

In order to attain good transportation service in cities, the basic consideration is unified service; that is, all transit lines should ordinarily be under the control of a single company. The field has become so limited in recent years, and the margin of profit so narrow, that competition with duplicate service is no longer supportable.

The purpose of a transit study in town planning is to correct existing inconsistencies and to co-ordinate future civic growth with transit needs. Many persons who possess a knowledge of civic history and the growth of cities have forecast an unusually prosperous future for Vancouver. While the town planning studies so far undertaken have not exhaustively analyzed Vancouver's resources, or the probable use which will be made of them, more than sufficient information has been developed to substantiate even the more optimistic predictions. It is therefore essential to remember that we are building for a future city as well as for the present. The mind must necessarily be projected from ten to twenty-five years ahead, in order to give unbiased consideration to a logically prepared town plan.

For example, the population now served by the British Columbia Electric Railway Company's lines within Vancouver is, in round figures, 250,000 people. From these are derived some 60,000,000 car rides per year, or about 240 rides per capita per year. This is called the riding habit. In order to move the people to and from, as well as within, the central business district of the city, a maximum of 454 cars per hour is now required. This demand already results in the over intensive use of certain tracks, such as those on Granville Street from Pender to Hastings, 127 cars per hour; on Hastings Street between Richards and Main, 151 cars per hour; and on Main Street between Hastings and Kingsway 127 cars per hour. These streets are in addition encumbered with heavy vehicular traffic. To plan for a population of 500,000 people, which is conservative, to say the least, there will be required to move the people to and from the business district, possibly 900 street cars per hour, assuming they are approximately of the same capacity as at present. And when the population reaches a million it is not safe to anticipate a less requirement than about 1800 cars per hour during the maximum period. Obviously more lanes of travel in the business district for street cars will become necessary, as some of the present routes are already overcrowded.

The problem, then, is one of increasing arterial capacity, which may be accomplished both by simplifying or altering existing routes where practicable and by providing new trackage. Both methods are discussed in the report.

The plan deals with three stages of development in the transition from the present day operating situation to the time when Greater Vancouver is intensively populated.

IMMEDIATE RECOMMENDATIONS.

Immediate recommendations are submitted which have for their purpose improvement of service and economy of operation. Very little additional construction work is involved.

THE INTERMEDIATE PROGRAMME.

The intermediate programme involves new routings and some additional track construction later, to be incorporated in the ultimate system.

THE ULTIMATE PROGRAMME.

The ultimate programme represents the final stage in the growth of the transit systems.

In considering the ultimate programme particularly, it may be noted that railroad extensions and betterments are rarely made much in advance of actual requirements, as it is impossible to obtain revenue from a non-existent residential or industrial district. On the other hand, the aggressive penetration of transit lines to territories especially well qualified for either residential or industrial development has a stimulating effect upon the growth of a city.

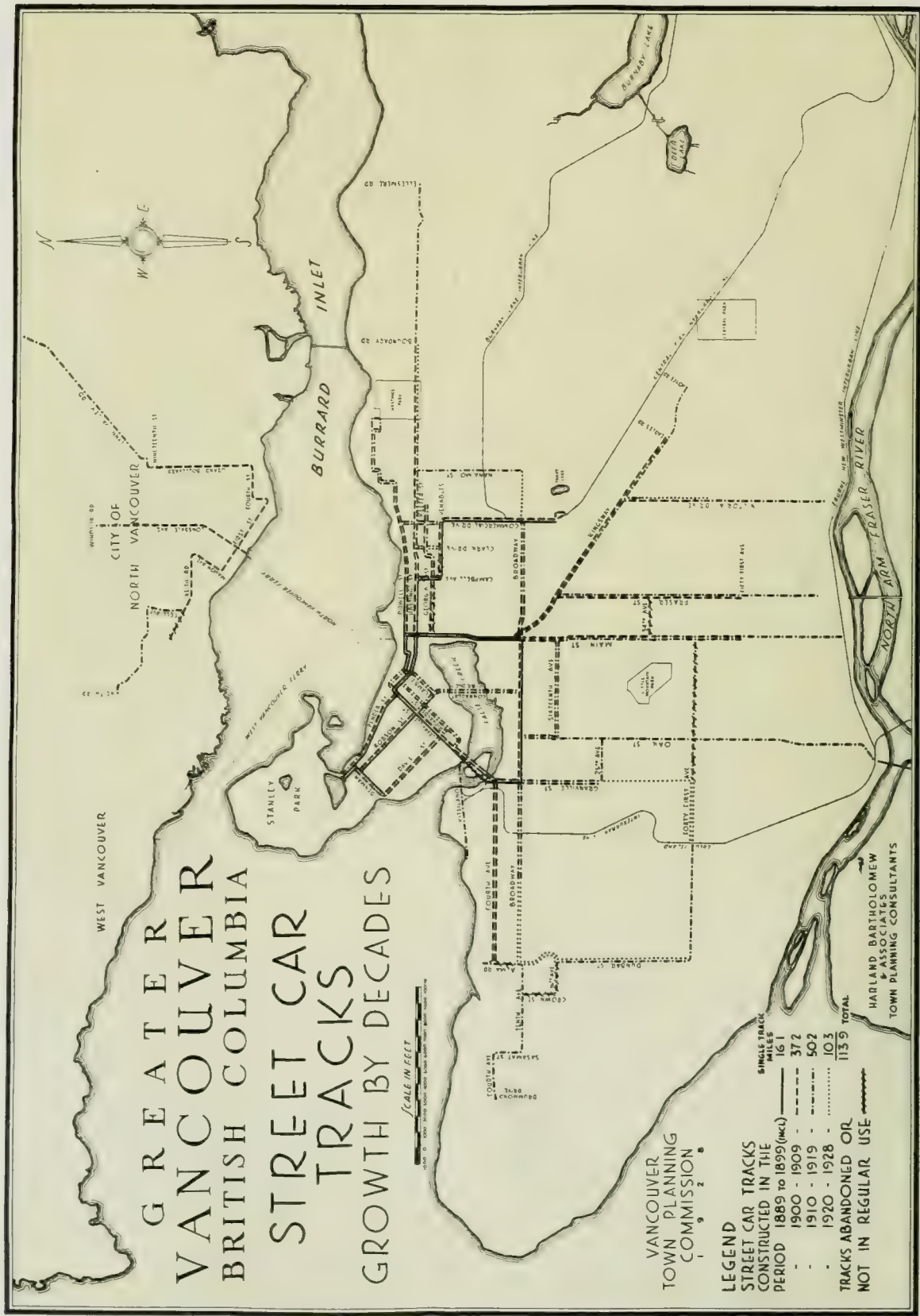
A major street plan has been developed for Greater Vancouver, and its purpose is to provide for all street traffic that may be expected to attend a population of approximately one million. Maps have been prepared—see Plates 17 and 18—on which are shown the present distribution of population and the probable future distribution. This forecast is an approximation arrived at by a study of the topographical conditions of the entire area, assuming a distribution of the future population in accordance with the comparative desirability of the various sections for residential purposes.

Bearing in mind that for mass transportation street cars will always be necessary, various lines have been laid out with a view of not only serving the anticipated population, but of encouraging its growth.

One of the main purposes of an ultimate programme is to establish definite routes for street cars, so that as the time arrives for the actual construction of tracks the work may proceed with the encouragement rather than the opposition of those living along the selected routes. In other words, the programme assists in stabilizing conditions, so that the property owner knows what to expect in the way of transportation when he purchases land in a given locality.

In laying out the ultimate programme it has been the endeavour to provide direct service from all sections of Greater Vancouver to important points and places of interest, such as the business districts, water fronts, recreational centres, proposed Civic Centre, public institutions and the industrial districts.

The actual carrying out of the ultimate programme should, in most cases, be preceded by the temporary use of motor busses, instead of transit lines, and in some instances motor bus operation will be permanent.



G R E A T E R
 V A N C O U V E R
 B R I T I S H C O L U M B I A

S T R E E T C A R
 T R A C K S
 G R O W T H B Y D E C A D E S

SCALE IN FEET
 1" = 1000'

VANCOUVER
 TOWN PLANNING
 COMMISSION

LEGEND

STREET CAR TRACKS
 CONSTRUCTED IN THE
 PERIOD

PERIOD	SINGLE TRACK MILES
1889 to 1899 (incl.)	16.1
1900 - 1909	37.2
1910 - 1919	50.2
1920 - 1928	10.3
TOTAL	113.9

TRACKS ABANDONED OR
 NOT IN REGULAR USE

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STREET CAR TRACKS. GROWTH BY DECADES.

(Plate 16).

The inception of the transit service dates back to the year 1889, when the city had a population of little more than 10,000.

The first tracks were laid within what is known as the Old Granville Townsite in the year 1889, and during the first years connection was made with the Central Park Interurban Line, near Cedar Cottage, by way of Commercial, thus establishing electric car service between the city and New Westminster. During the first decade, street cars were also run to Stanley Park via Pender and to English Bay via Robson and Denman, and the Fairview Belt Line was in operation.

In the succeeding decades, extensions were more or less general, but the major portion of the latest new construction work has been done in the fast developing Municipality of Point Grey.

There was no construction work between the years 1914 and 1920, and since then but few miles have been added to the present system.

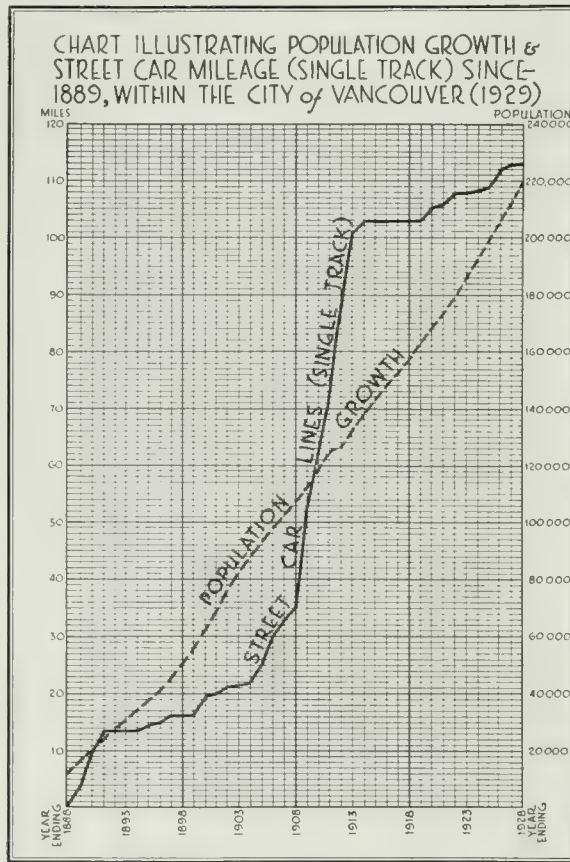


Chart No. 4

DIAGRAM ILLUSTRATING GROWTH OF TRANSIT LINES DURING PAST TEN YEARS

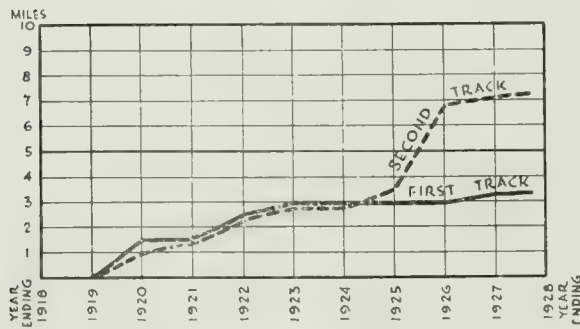


Chart No. 5

FIRST TRACK REPRESENTS SINGLE TRACK EXTENSIONS TO EXISTING TRANSIT LINES. SECOND TRACK REPRESENTS THE ADDITIONAL TRACK FOR DOUBLE TRACKING

THERE WAS NO CONSTRUCTION OF TRANSIT LINES BETWEEN THE YEARS 1914 & 1920

POPULATION GROWTH AND STREET CAR MILEAGE.

(Chart 4).

The outstanding feature of this chart, which shows the comparative growth of street car tracks and population, is the small amount of development since the commencement of the Great War in 1914.

In extending street car tracks, the two main considerations to be borne in mind are, firstly, to adequately serve the existing population, and, secondly, to encourage growth and development over new routes.

With these in view, it will be noted that the necessity for a considerable extension of the street railway system is imminent.

The mileage of street car tracks is given in single track miles; for example, if six miles of double track represents the total amount of construction work carried out in any one year, it is plotted as twelve single track miles.

The population growth indicated is for the area included within the limits of the City of Vancouver after amalgamation on January 1st, 1929.

GROWTH OF TRAFFIC LINES DURING PAST TEN YEARS.

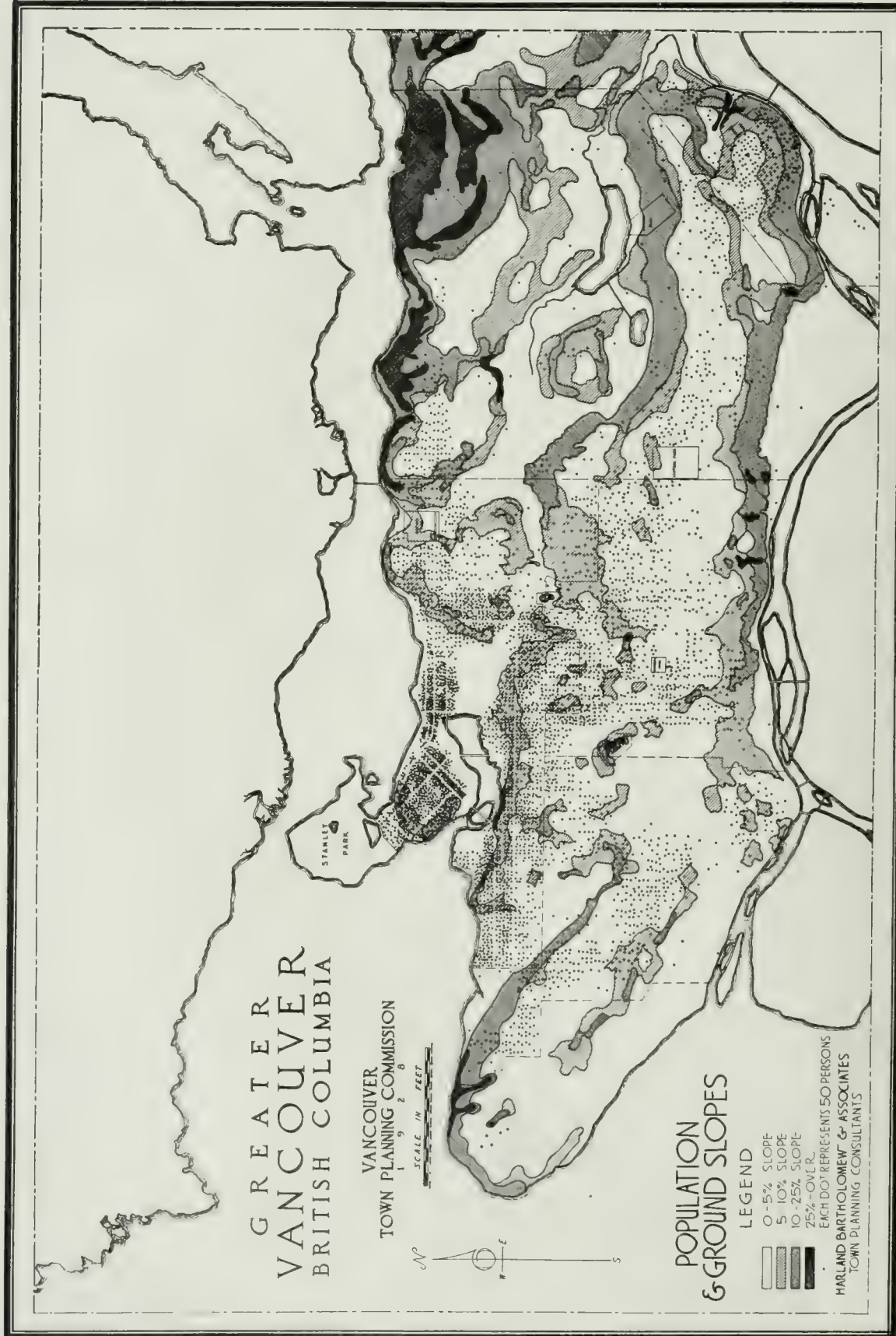
(Chart 5).

The amount of construction in the last decade has been very light, and undoubtedly the next decade will see a large amount of new work.

It will be noted that the penetrations into new territory were slightly over three miles. A considerable mileage of single track was doubled.

The old double track on Broadway from Granville to Trafalgar was re-constructed, as well as several other sections of trackage, within the period covered by the Chart, but being duplications of existing track are not included in the Chart. The Grandview, New Westminster and the University Bus lines were also established in recent years, and are referred to on page 123.

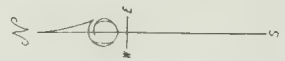
The first and second tracks have been shown separately, as the former represents actual extensions into territory not already served, whereas the second track represents the amount of single lines double-tracked within the period.



GREATER
VANCOUVER
BRITISH COLUMBIA

VANCOUVER
TOWN PLANNING COMMISSION

SCALE IN FEET



POPULATION
& GROUND SLOPES

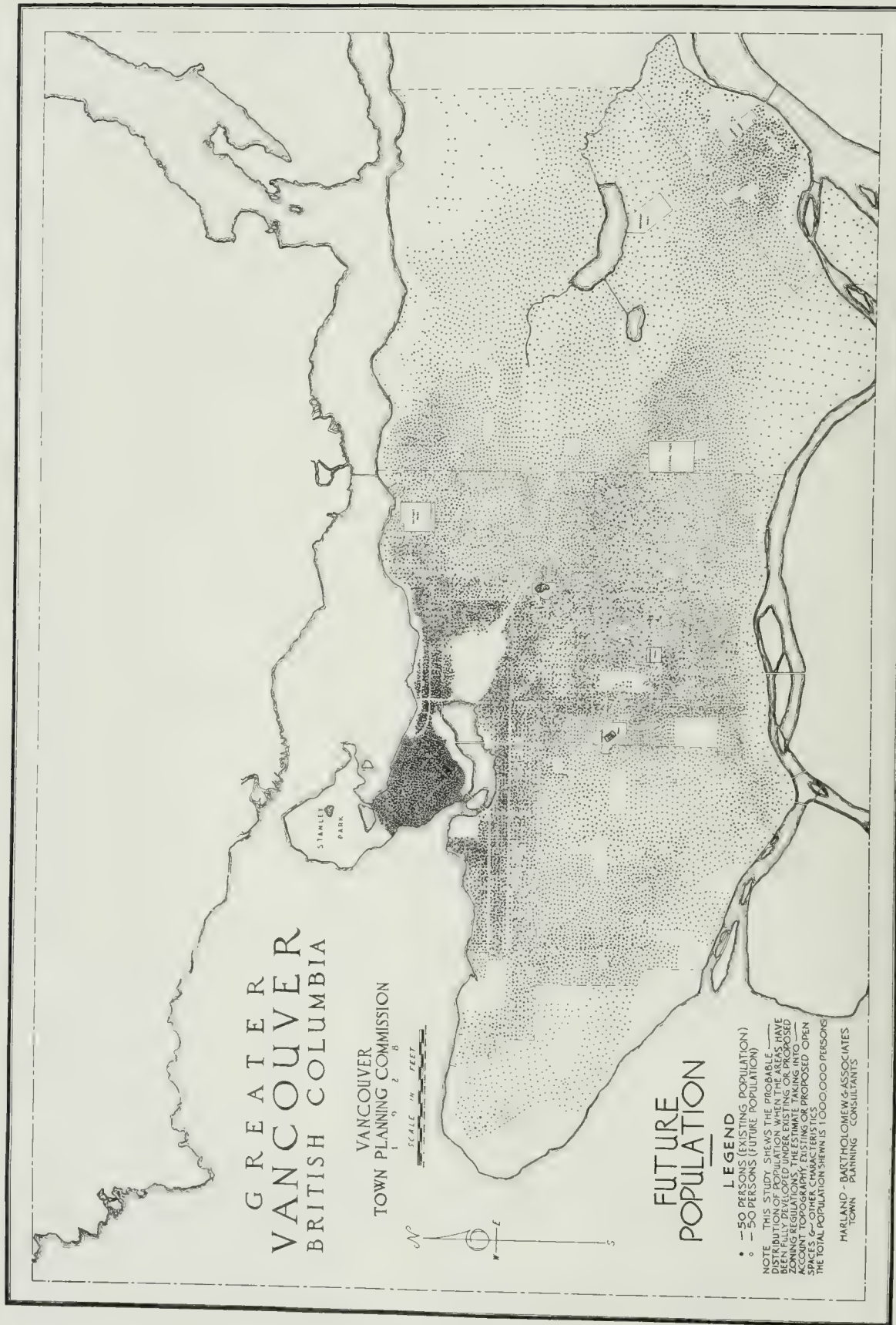
- LEGEND
- 0-5% SLOPE
 - 5-10% SLOPE
 - 10-25% SLOPE
 - 25%+ OVER
 - EACH DOT REPRESENTS 50 PERSONS
- HARLAND BARTHOLOMEW & ASSOCIATES
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POPULATION AND GROUND SLOPES.
(Plate 17).

Greater Vancouver is fortunate in possessing a large expanse of comparatively level land suitable for further development.

In Burnaby, especially in the northern portions, some of the ground slopes are quite formidable and only a scattered population can be expected in these areas. The portions around Capitol Hill are well suited to the establishment of the extensive park which has been recommended there.

Considerable replotting is necessary in both the Burnaby and South Vancouver districts, principally in the former, in order that the best use can be made of the land, making it both desirable and practical for habitation.



G R E A T E R
V A N C O U V E R
 B R I T I S H C O L U M B I A

V A N C O U V E R
 T O W N P L A N N I N G C O M M I S S I O N

SCALE IN FEET



**FUTURE
 POPULATION**

LEGEND
 • — 50 PERSONS (EXISTING POPULATION)
 • — 50 PERSONS (FUTURE POPULATION)

NOTE: THIS STUDY SHOWS THE PROBABLE FUTURE POPULATION DISTRIBUTION UNDER EXISTING OR PROPOSED ZONING REGULATIONS. THE ESTIMATE TAKING INTO ACCOUNT TOPOGRAPHY, EXISTING OR PROPOSED OPEN SPACE, AND OTHER FACTORS, SHOWS THE TOTAL POPULATION SHOULD BE 1,000,000 PERSONS.

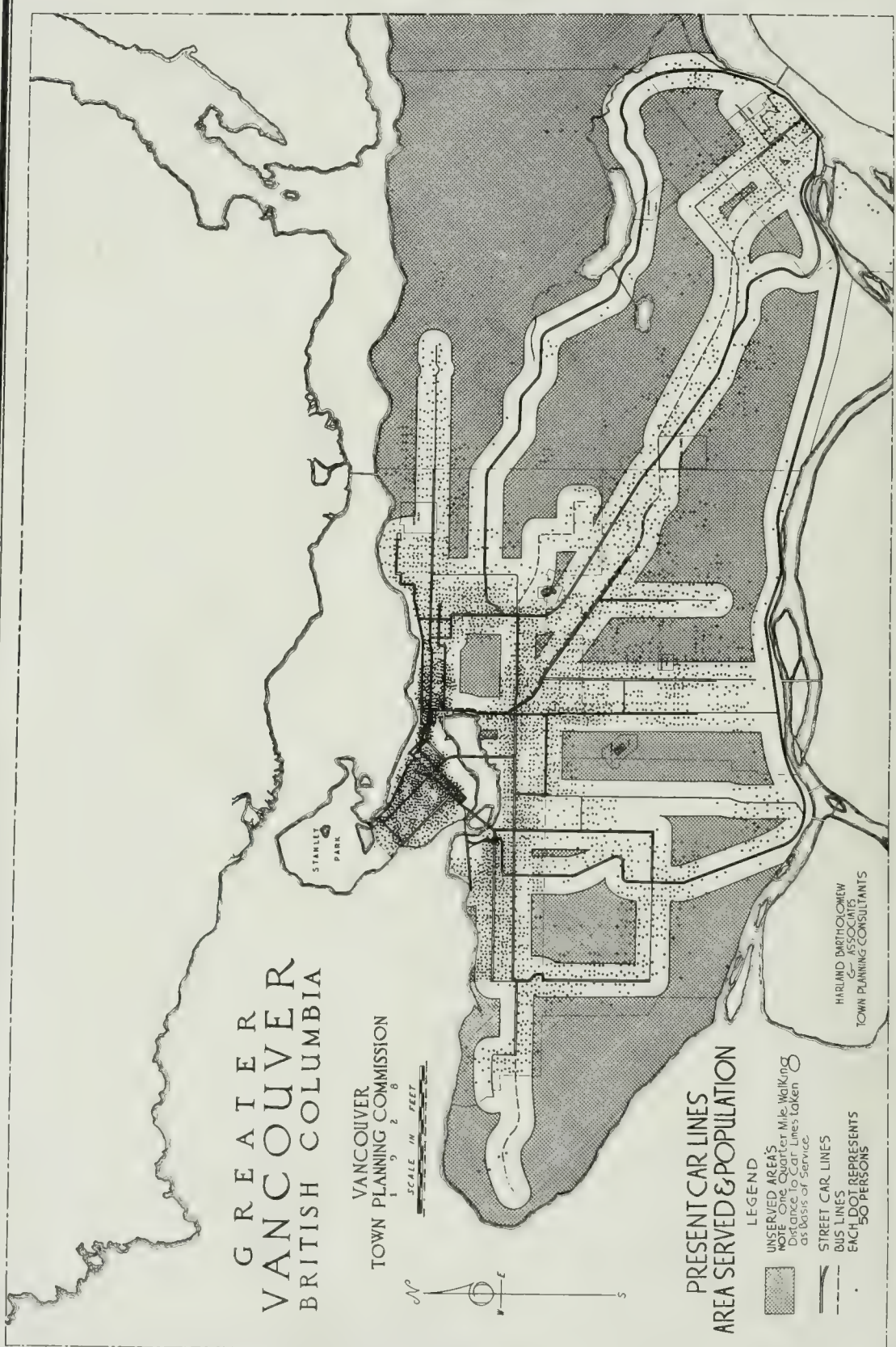
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FUTURE POPULATION.

(Plate 18).

In this study the ground slopes, zoning regulations, present development and various other factors were taken into consideration in plotting the probable distribution of the future population.

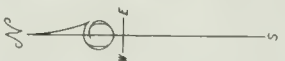
It will be noted that the whole of the dots represent a population of 1,000,000, a figure estimated to be reached by about the year 1960. Perhaps no plan illustrates more clearly the necessity for planning and making adequate provision for the installation of the necessary utilities.



GREATER
VANCOUVER
BRITISH COLUMBIA

VANCOUVER
TOWN PLANNING COMMISSION
1 2 3 4 5 6 7 8

SCALE IN FEET



PRESENT CAR LINES
AREA SERVED & POPULATION

LEGEND

UNSERVED AREAS
NOTE: One Quarter Mile Walking
Distance to Car Lines taken
as Basis of Service.

STREET CAR LINES

BUS LINES
EACH DOT REPRESENTS
50 PERSONS

HARLAND BERTHOUD NEW
& ASSOCIATES
TOWN PLANNING CONSULTANTS

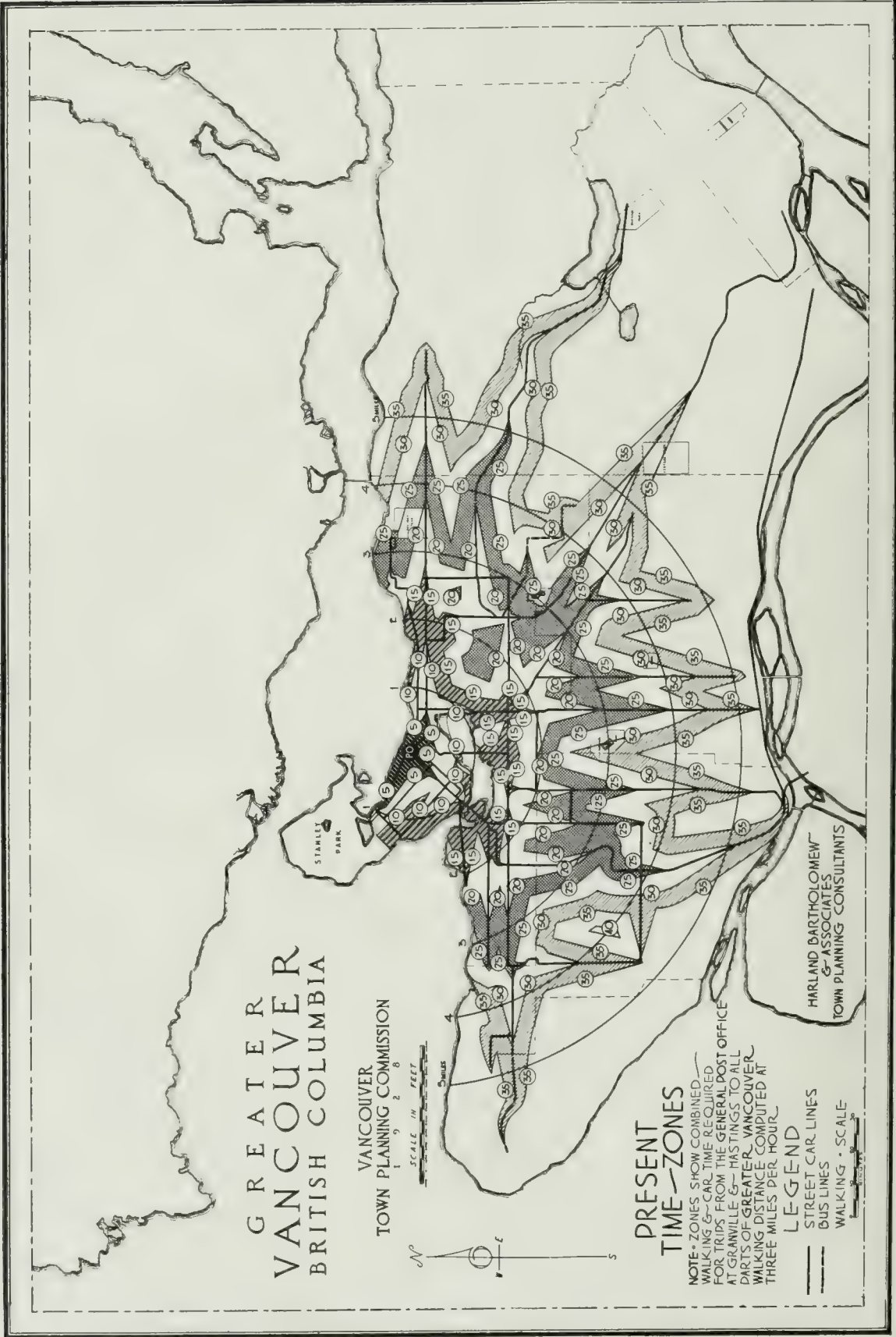
PRESENT CAR LINES. AREAS SERVED AND POPULATION.

(Plate 19).

It would appear, from the study of this plate, that the present population is more or less adequately served. The Knight Road extension from Kingsway south is the first new line advocated. The Stephens-Trafalgar-Larch route comes next in order. This is based on the present trend of development, but the development, which seems imminent in the vicinity of Cambie Street, may bring the proposed line on this street into being sooner than at present indicated. Similar conditions may apply to some of the other suggested extensions in connection with both the intermediate and ultimate plans. See Plates 27 and 29 respectively.

One-quarter mile, or five minutes walking distance from the street car, is considered the desirable maximum in providing adequate service.

There is a certain amount of overlapping of service in some areas, which is unavoidable, especially in the central business district and vicinity.



G R E A T E R
VANCOUVER
BRITISH COLUMBIA

VANCOUVER
TOWN PLANNING COMMISSION

SCALE IN FEET



PRESENT
TIME ZONES

NOTE - ZONES SHOW COMBINED WALKING & CAR TIME REQUIRED FOR TRIPS FROM THE GENERAL POST OFFICE AT GRANVILLE & HASTINGS TO ALL PARTS OF GREATER VANCOUVER. WALKING DISTANCE COMPUTED AT THREE MILES PER HOUR.

LEGEND

- STREET CAR LINES
- BUS LINES
- WALKING - SCALE

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PRESENT TIME ZONES.

(Plate 20).

A study of this chart will show the value of the rapid transit lines to Lulu Island and New Westminster via both the Central Park and Burnaby Lake routes. It would be difficult at this period to make up a time-table for the ultimate system advocated, but a diagram of the time zones under this system would result in the zig-zag appearance of the present time zone diagram being very considerably smoothed out.

The City of Vancouver is well served with rapid transit lines and little change is advocated in connection with these.

It is desirable that the east and west lines be linked up in the centre of the city at a central depot.

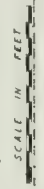
The proposed transit line approaches, which skirt False Creek to the new location of the central depot advocated at Carrall Street, should result in a greater speeding up of service.

ROUTE NUMBERS

- 1 FAIRVIEW OUTER - (BELT LINE)
- 2-3 FAIRVIEW INNER (BELT LINE)
- 4 MAIN - ENGLISH DAY
- 5 GRANDVIEW - 4th AVENUE
- 6 ENGLISH DAY - BICORDWAY EAST
- 7 ROBSON - OAK & KING EDWARD
- 8 FRASER - KERRISDALE
- 9 HASTINGS PK - PENDER ST X OVER
- 9a10a VICTORIA RD - STANLEY PARK
- 9a10b VICTORIA RD - ROBSON
- 11a JOYCE RD - PENDER ST X OVER
- 11b JOYCE RD - STANLEY PARK
- 12 KITSLANO - HASTINGS & RICHARDS
- 13a4 BOUNDARY ROAD - DUMBAR
- 13a5 BOUNDARY ROAD - SAKAMIT
- 13a6 BOUNDARY ROAD - 10th AVE & SA-SAMAT
- 17 HARDOLE - HASTINGS & CAMBIE
- 18a MAIN - BROADWAY & OAK
- 18b MAIN - HASTINGS & CAMBIE
- 19c KING EDWARD - OAK
- A BROADWAY & COMMERCIAL - NANNING & HASTINGS
- D BOUNDARY ROAD - ELLE SMERE
- C MAIN STREET SOUTH

G R E A T E R VANCOUVER BRITISH COLUMBIA

VANCOUVER
TOWN PLANNING COMMISSION

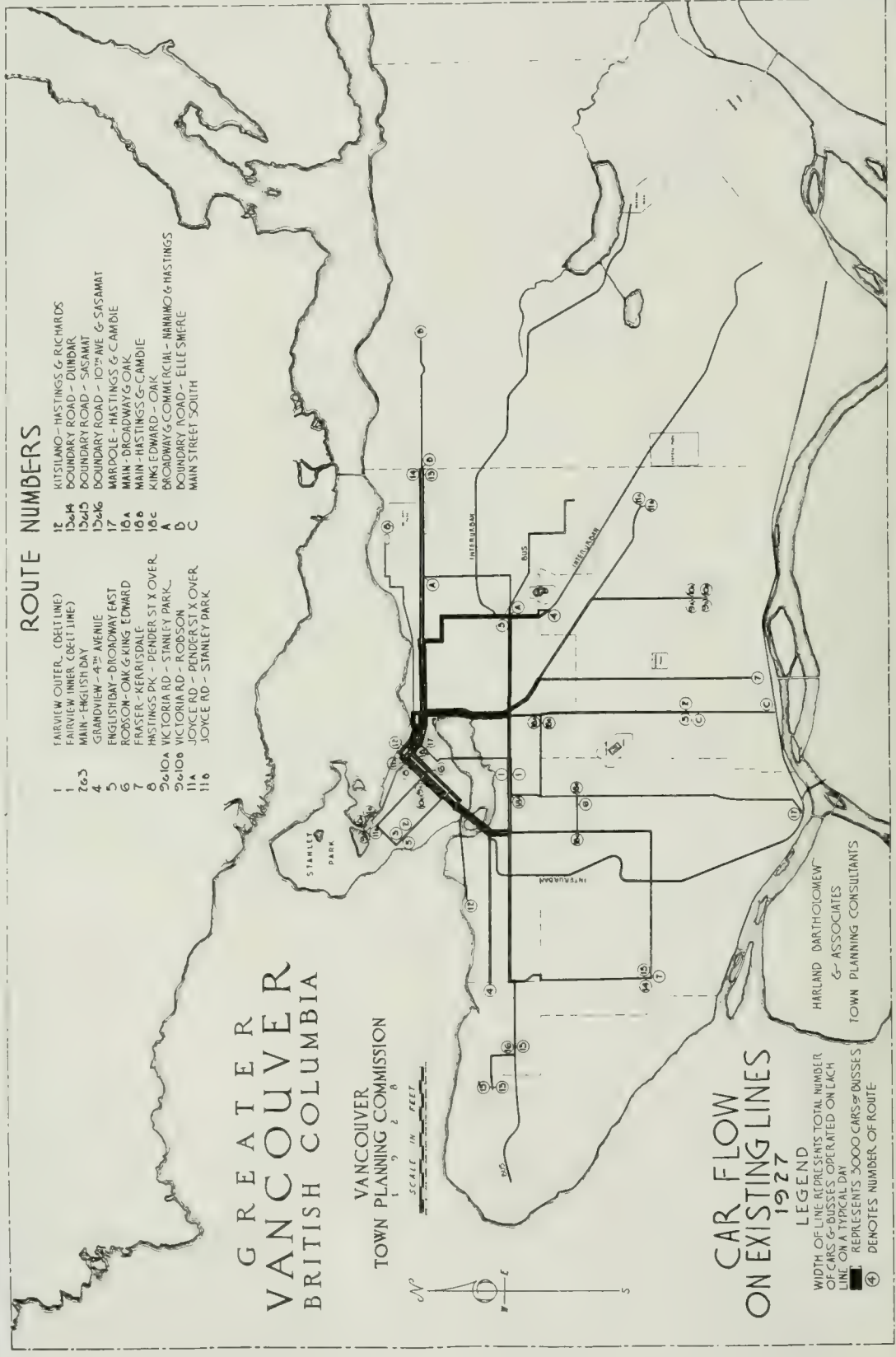


Scale in Feet

CAR FLOW ON EXISTING LINES 1927

- LEGEND
- WIDTH OF LINE REPRESENTS TOTAL NUMBER OF CARS & BUSES OPERATED ON EACH LINE ON A TYPICAL DAY
 - REPRESENTS 3000 CARS or BUSES
 - ④ DENOTES NUMBER OF ROUTE

HARLAND DARTHOLOMEW
& ASSOCIATES
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CAR FLOW ON EXISTING LINES.

(Plate 21).

In connection with this plate, a study should be made of the various suggestions advocated for immediate adoption. See page 60.

The establishment of the Broadway cross town belt line will render a valuable service and tend to reduce some of the street car traffic on Main Street and Granville Bridge, where it has reached the maximum for efficiency.

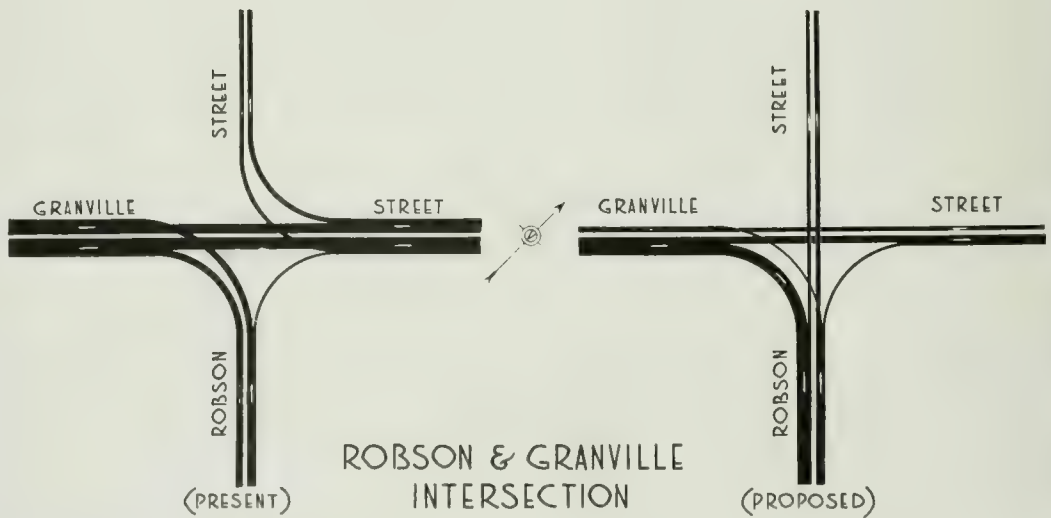
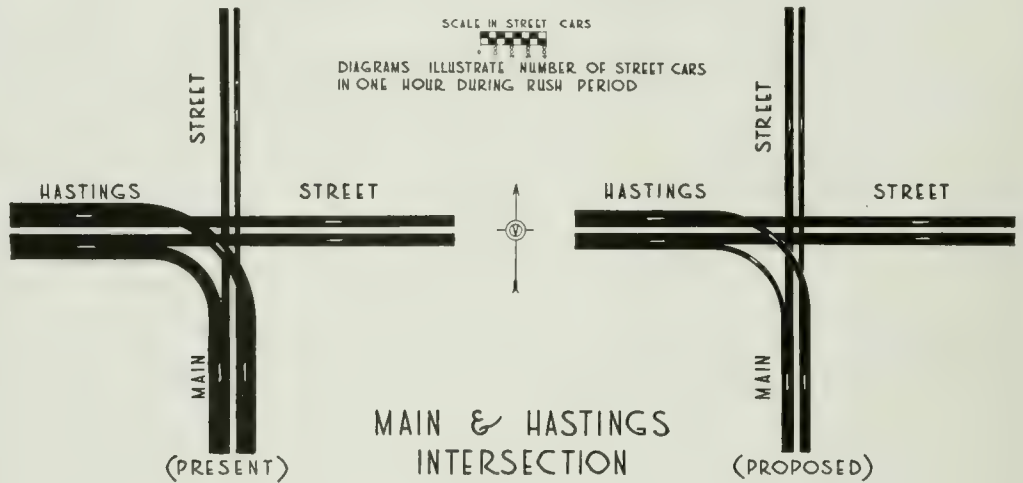
Connaught Bridge is very lightly used by street cars at present and will permit of a considerable increase of traffic over it. This bridge should take a number of the cars now using Main Street, which has to accommodate considerably more street cars than the desired maximum (120 cars per hour to a single track), with the result that delays are frequently caused by the congestion occasioned.

The construction of the Burrard Bridge will directly relieve the traffic on Granville Bridge.

VANCOUVER

BRITISH COLUMBIA

TRANSIT STUDY OF TRAFFIC FLOW AT CONGESTED INTERSECTIONS



HARLAND BARTHOLOMEW & ASSOCIATES
TOWN PLANNING CONSULTANTS

VANCOUVER
TOWN PLANNING COMMISSION

TRAFFIC FLOW AT CONGESTED INTERSECTIONS.

(Plate 22).

This study of two congested corners clearly illustrates the improvement in operation that can be brought about by the proposals for immediate adoption.

It will be specially noted that the Main Street and Hastings Street corner is over-taxed at present with street car traffic, some 151 cars passing over a single line of tracks during the rush hour.

With the suggestions for immediate adoption carried out, the traffic is kept within the 120 car maximum, also the turning movements have been reduced.

The Robson Street and Granville Street corner is not so serious when regarded from the street car traffic standpoint only, but as there is more automobile traffic at this corner, it is desirable to reduce the turning movements of the street cars to a minimum. The present left-hand turns are the worst feature here, and it is proposed to re-route some of the cars necessitating these turns via Davie Street, which is less congested.

SUMMARY OF TRANSIT DATA - EXISTING LINES

VANCOUVER
TOWN PLANNING COMMISSION
JULY 26TH 1928

VANCOUVER
BRITISH COLUMBIA

HARLAND BARTHOLOMEW
& ASSOCIATES
TOWN PLANNING CONSULTANTS

NO OF LINE	NAME OF LINE	LENGTH IN MILES	ROUND TRIPS PER DAY	TOTAL PASSENGERS CARRIED PER DAY	TOTAL SEATS PROVIDED PER LINE	SCHEDULE TIME FOR TYPICAL TRIP				SCHEDULE SPEED			HEADWAY IN MINUTES			MINIMUM NUMBER OF LINES	
						LEAVES	ARRIVES	AT	ARRIVES	AT	IN MILES PER HOUR IN BUSINESS DISTRICT	AT	MAX	NON RUSH	MIN		
1	FAIRVIEW - INNER	5.7	235	22074	41536	BROADWAY & MAIN	2.47	ROBSON & GRANVILLE	3.07	BROADWAY & MAIN	3.23	8.25	10.00	10	5	2	
1	FAIRVIEW - OUTER	5.7	237			BROADWAY & MAIN	2.45	ROBSON & GRANVILLE	3.01	BROADWAY & MAIN	3.20	8.25	10.00	10	5	3	
2, 3	MAIN DAVIE & ENGLISH BAY	6.4	228	29379	40040	MAIN & E 52 ND	2.07	ENGLISH BAY	2.43	MAIN & E 52 ND	3.23	8.25	10.50	10	5	3	
4	GRANDVIEW	7.6	225	30774	45144	CEEDAR COTTAGE	2.03	ALMA	2.47	CEEDAR COTTAGE	3.33	8.25	12.00	10	5	2	
5	BROADWAY ROBSON - ENGLISH BAY	5.2	236	23085	39952	COMMERCIAL	2.04	ENGLISH BAY	2.35	COMMERCIAL	3.08	8.25	10.50	10	5	2	
6	FRASER KERRISDALE	12.1	160	29185	25872	MARINE DRIVE	2.01	DUNBAR & WILSON	3.09	MARINE DRIVE	4.23	8.00	11.25	10	10	3.5	
8	HASTINGS PARK & PENDER X OVER	3.7	111	4663	9768	HASTINGS PK	2.09	PENDER X OVER	2.32	HASTINGS PARK	2.55	7.75	11.00	20	10	5	
9	(A) VICTORIA - STANLEY PARK	7.4	115			E 56 TH & VICTORIA	2.00	STANLEY PARK	2.42	E 56 TH & VICTORIA	3.23	8.25	12.33	20	10	7	
10	(B) STANLEY PK - ROBSON ETC	5.7	158	16066	24024	ROBSON - GRANVILLE	2.25	E 45 TH & VICTORIA	2.52	ROBSON - GRANVILLE	3.33	8.33	12.33	20	10	4	4
11	(A) PENDER X OVER & STANLEY PK	5.9	92	6480	11440	PENDER JOYCE	2.02	JOYCE	2.35	PENDER JOYCE	3.17	7.75	11.75	20	6	8	
11	(B) JOYCE - STANLEY PARK	7.1	38			STANLEY PARK	2.00	HASTINGS & RICHARDS	2.37	JOYCE	3.17	7.75	11.75	23	20	8	
12	KITSILANO - RICHARDS & HASTINGS	2.5	99	6466	8712	KITSILANO	2.05	HASTINGS & RICHARDS	2.21	KITSILANO	2.36	6.00	10.25	20	12	10	
14	BOUNDARY - DUNBAR & W 41 ST	10.3	279			BOUNDARY	2.04	DUNBAR & WILSON	3.00	BOUNDARY	3.58	9.40	12.50	12	10	4	
15	BOUNDARY - SASAMAT W 4 TH & DRUMMOND	11.1	139	43325	48840	BOUNDARY	2.09	W 4 TH & DRUMMOND	3.05	BOUNDARY	4.03	9.40	12.50	20	10	6	2
16	BOUNDARY - W 10 TH & SASAMAT	9.3	137			BOUNDARY	4.31	W 10 TH & SASAMAT	5.23	BOUNDARY	6.22	9.40	12.50	20	10	8	
17	● MARPOLE - OAK - HASTINGS	6.3	57	4034	5016	MARPOLE	2.06	HASTINGS & CAMBIE	2.42	MARPOLE	3.24	*	10.00	39	20	18	
18	(A) MAIN - 16 TH - BROADWAY - OAK	1.6	43	1707	4928	MAIN & W 16 TH	2.15	BROADWAY & OAK	2.23	MAIN & W 16 TH	2.33	*	10.00	20	20	19	6
18	(B) MAIN - 16 TH - BROADWAY - OAK - CAMBIE & HASTINGS	3.6	13			MAIN & W 16 TH	5.12	HASTINGS & CAMBIE	5.33	MAIN & W 16 TH	6.03	*	10.00	20	20	17	
18	(C) OAK - KING EDWARD - GRANVILLE	0.5	15			KING EDWARD & OAK	7.14	KING EDWARD & GRANVILLE	7.17	KING EDWARD & OAK	7.27	*	10.00	20	20	20	
18	(D) KING EDWARD - ROBSON & RICHARDS	3.17	33	1618	4224	KING EDWARD & GRANVILLE	2.24	ROBSON & GRANVILLE	2.43	KING EDWARD & GRANVILLE	3.04	*	10.00	20	20	20	
●	BROADWAY & COMMERCIAL - NANAIMO & HASTINGS	1.9	80	2249	7040	BROADWAY & COMMERCIAL	2.00	NANAIMO & HASTINGS	2.10	BROADWAY & COMMERCIAL	2.22	*	10.00	24	12	12	
●	HASTINGS EXTENSION (BOUNDARY - ELLESMERE)	1.9	64	1135	5632	BOUNDARY	2.00	ELLESMERE	2.10	BOUNDARY	2.22	*	10.00	24	24	12	
●	MAIN STREET SOUTH	1.2	66	785	5808	MAIN & E 52 ND	2.01	RIVER ROAD	2.06	MAIN & E 52 ND	2.14	*	12.00	17	15	7	

TIME OF TRIP FOR THROUGH ROUTES FIGURED BETWEEN OPPOSITE ENDS OF LINE
 TIME OF TRIP FOR LINES LOOPING IN BUSINESS DISTRICT REPRESENTS ROUND TRIP
 ALL TIMES SHOWN IN P.M. HOURS

THE NUMBER OF PASSENGERS TO EACH LINE REPRESENTS PASSENGERS, ALSO TRANSFER PASSENGERS WHICH ADD 50% TO 100% IN SOME CASES TO THE SEATS IN SERVICE.
 ● DENOTES ONE-MAN CARS

Chart 6

SUMMARY OF TRANSIT DATA.

(Chart 6).

The various routes numbered and described on this summary are shown on the several studies of present routes, and was compiled from time-tables and other information supplied by the British Columbia Electric Railway Company.

The number of passengers shown as carried on each line includes both revenue and transfer passengers, the latter representing quite a proportion of the total.

On certain lines, passengers retain their transfers, this privilege being granted when the use of three different routes is necessary to effect the most direct travel, and naturally applies on the intermediate line.

The Fairview Belt Line, especially on Broadway between Main Street and Granville Street, carries many of these passengers. There is also a fairly extensive use made of this transfer privilege in the central business section.

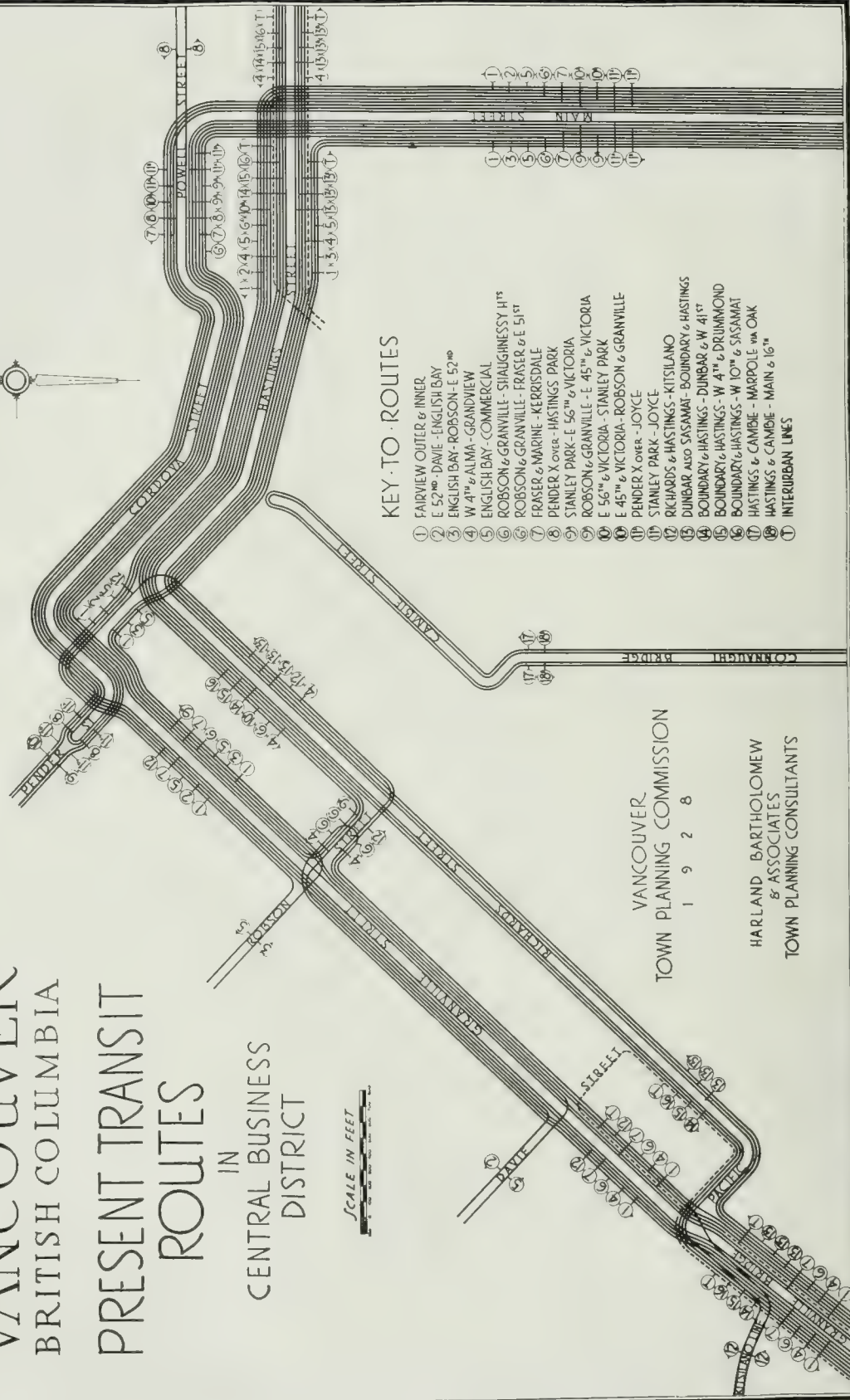
Figures were not available whereby the average daily number of these passengers could be approximated, consequently they have been omitted from the figures shown and the same applies to passengers in possession of car-passes.

The typical times of departure and arrival on the various routes are from the extremities of same.

VANCOUVER BRITISH COLUMBIA PRESENT TRANSIT ROUTES

IN
CENTRAL BUSINESS
DISTRICT

SCALE IN FEET



KEY TO ROUTES

- ① FAIRVIEW OUTER & INNER
- ② E 52ND - DAVIE - ENGLISH BAY
- ③ ENGLISH BAY - ROBSON - E 52ND
- ④ W 4TH & ALMA - GRANDVIEW
- ⑤ ENGLISH BAY - COMMERCIAL
- ⑥ ROBSON & GRANVILLE - SHALGHNESSY HTS
- ⑦ ROBSON & MARINE - FRASER & E 51ST
- ⑧ FRASER & MARINE - KERRISDALE
- ⑨ PENDER X over - HASTINGS PARK
- ⑩ STANLEY PARK - E 56TH & VICTORIA
- ⑪ ROBSON & GRANVILLE - E 45TH & VICTORIA
- ⑫ E 56TH & VICTORIA - STANLEY PARK
- ⑬ E 45TH & VICTORIA - ROBSON & GRANVILLE
- ⑭ PENDER X over - JOYCE
- ⑮ STANLEY PARK - JOYCE
- ⑯ RICHARDS & HASTINGS - KITSILANO
- ⑰ DUNBAR & SASAMAT - BOUNDARY & HASTINGS
- ⑱ BOUNDARY & HASTINGS - DUNBAR & W 41ST
- ⑲ BOUNDARY & HASTINGS - W 4TH & DRUMMOND
- ⑳ BOUNDARY & HASTINGS - W 10TH & SASAMAT
- ㉑ HASTINGS & CAMBIE - MARPOLE via OAK
- ㉒ HASTINGS & CAMBIE - MAIN & 16TH
- ㉓ INTERURBAN LINES

VANCOUVER
TOWN PLANNING COMMISSION
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& ASSOCIATES
TOWN PLANNING CONSULTANTS

PRESENT TRANSIT ROUTES IN CENTRAL BUSINESS DISTRICT.
(Plate 23).

This plan clearly demonstrates the various movements occasioned by the present routing through the central business district.

Most of the cars routed through this district traverse Hastings Street between Richards Street and Main Street; Granville Street between Hastings Street and Pender Street, at Pacific Street.

The intersection at Robson Street and Granville Street is a particularly busy one on account of the volume of automobile traffic, and is worthy of note; the same applies to the intersections at Hastings, Pender and Pacific Streets on Granville Street, and to Richards and Main Streets on Hastings Street.

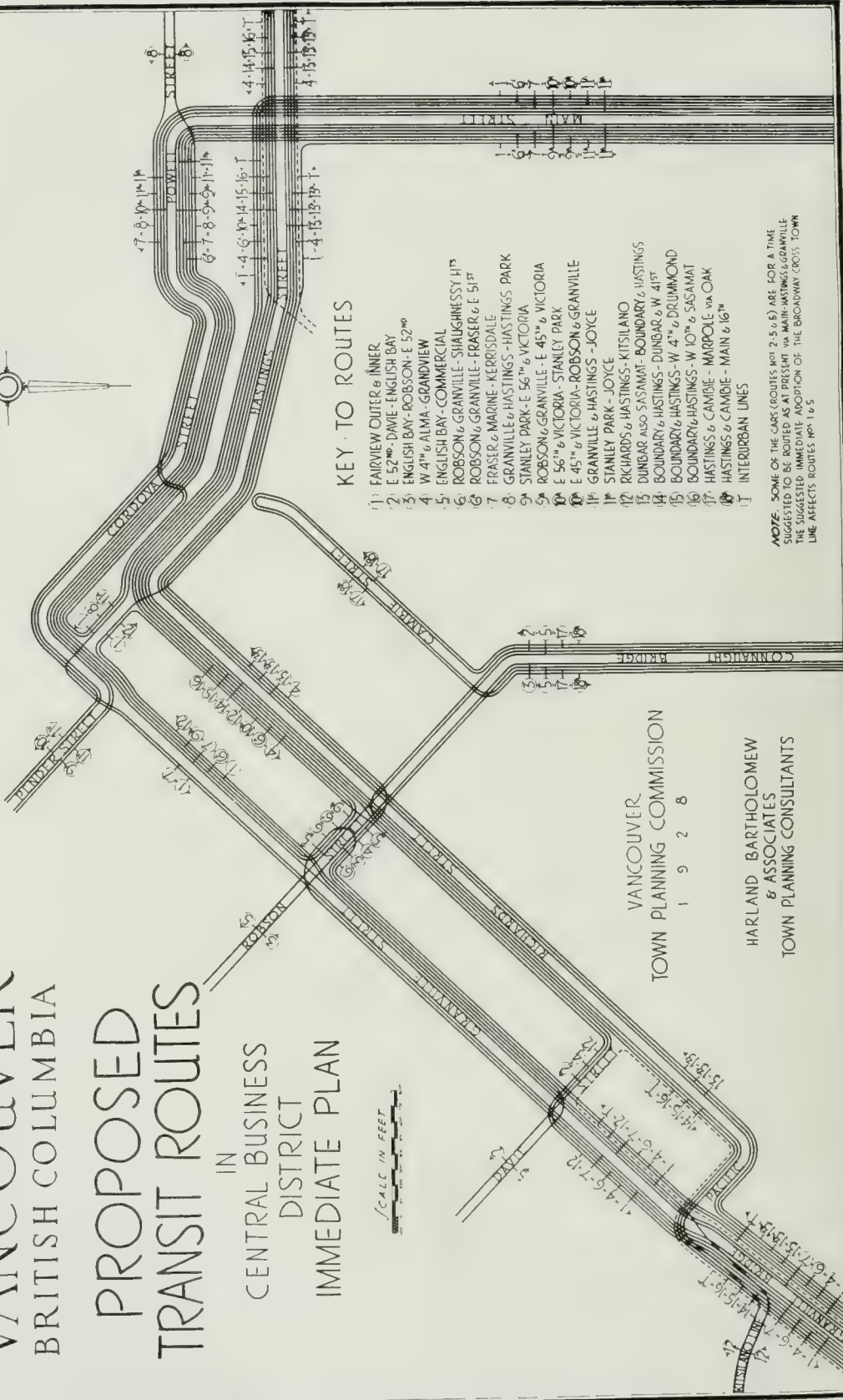
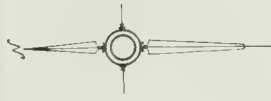
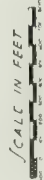
Certain of these routes can be changed without reconstruction of the present tracks so as to lessen the movements at the worst corners. Others would require but little expense to be successfully altered.

For proposed re-routing in the central business district, see Plate 24, page 108.

VANCOUVER BRITISH COLUMBIA

PROPOSED TRANSIT ROUTES

IN
CENTRAL BUSINESS
DISTRICT
IMMEDIATE PLAN



KEY TO ROUTES

- 1) FAIRVIEW OUTER & INNER
- 2) E 52ND - DAVE - ENGLISH BAY
- 3) ENGLISH BAY - ROBSON - E 52ND
- 4) W 4TH & ALMA - GRANDVIEW
- 5) ENGLISH BAY - COMMERCIAL
- 6) ROBSON & GRANVILLE - SHAUGHNESSY H^{IGH}
- 7) ROBSON & GRANVILLE - FRASER & E 51ST
- 8) FRASER & MARINE - KEPPELDALE
- 9) GRANVILLE & HASTINGS - HASTINGS PARK
- 10) STANLEY PARK - E 56TH & VICTORIA
- 11) ROBSON & GRANVILLE - E 45TH & VICTORIA
- 12) E 56TH & VICTORIA - STANLEY PARK
- 13) E 45TH & VICTORIA - ROBSON & GRANVILLE
- 14) GRANVILLE & HASTINGS - JOYCE
- 15) STANLEY PARK - JOYCE
- 16) RICHARDS & HASTINGS - KITSILANO
- 17) DUNBAR ALSO SASAMAT - BOUNDARY & HASTINGS
- 18) BOUNDARY & HASTINGS - DUNBAR & W 41ST
- 19) BOUNDARY & HASTINGS - W 4TH & DRUMMOND
- 20) BOUNDARY & HASTINGS - W 10TH & SASAMAT
- 21) HASTINGS & CAMBIE - MARPOLE VIA OAK
- 22) HASTINGS & CAMBIE - MAIN & 16TH
- 23) INTERURBAN LINES

NOTE: SOME OF THE CIRCLES (NOT 2, 5 & 8) ARE FOR A TIME SUGGESTED TO BE ROUTED AS AT PRESENT VIA MAIN-HASTINGS & GRANVILLE. THE SUGGESTED IMMEDIATE ADOPTION OF THE BROWNWAY CROSS-TOWN LINE AFFECTS ROUTES 19-22 & 23.

VANCOUVER
TOWN PLANNING COMMISSION
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& ASSOCIATES
TOWN PLANNING CONSULTANTS

PROPOSED TRANSIT ROUTES IN THE CENTRAL BUSINESS DISTRICT.

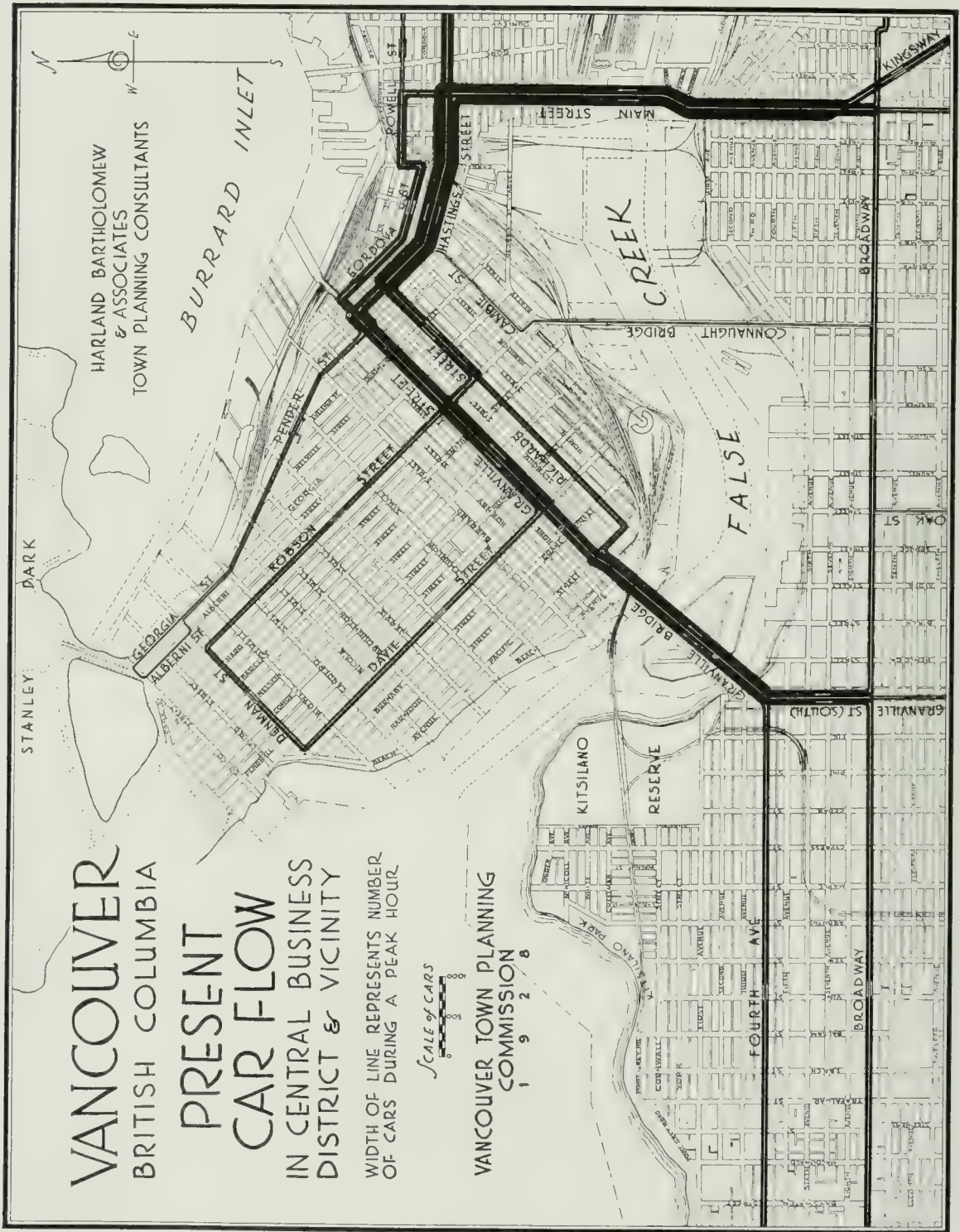
(Plate 24).

On this plate it will be readily noted that by means of the proposed re-routing the car movements at the various busy intersections and congested portions of streets referred to in Plate 23 can be considerably reduced, particularly on that portion of Granville Street between Pender Street and Hastings Street, also the turning movements are reduced to a minimum.

The greater use of Connaught Bridge and Robson Street, and that portion of Richards Street between Robson Street and Davie Street, would relieve the traffic on Granville Street and reduce the turning movements at Robson Street and Granville Street, which would be mostly transferred to Davie Street and Granville Street, a less congested intersection.

Hastings Street between Main Street and Richards Street would also be relieved, but Granville Bridge will still require to take care of the lines at present routed over it until such time as the Burrard Bridge is constructed.

The installation of a right turn from Hastings Street northerly into Granville Street and the direct linking up of the Broadway Street tracks across Main Street, would be the only construction required to make the proposed immediate re-routing possible.



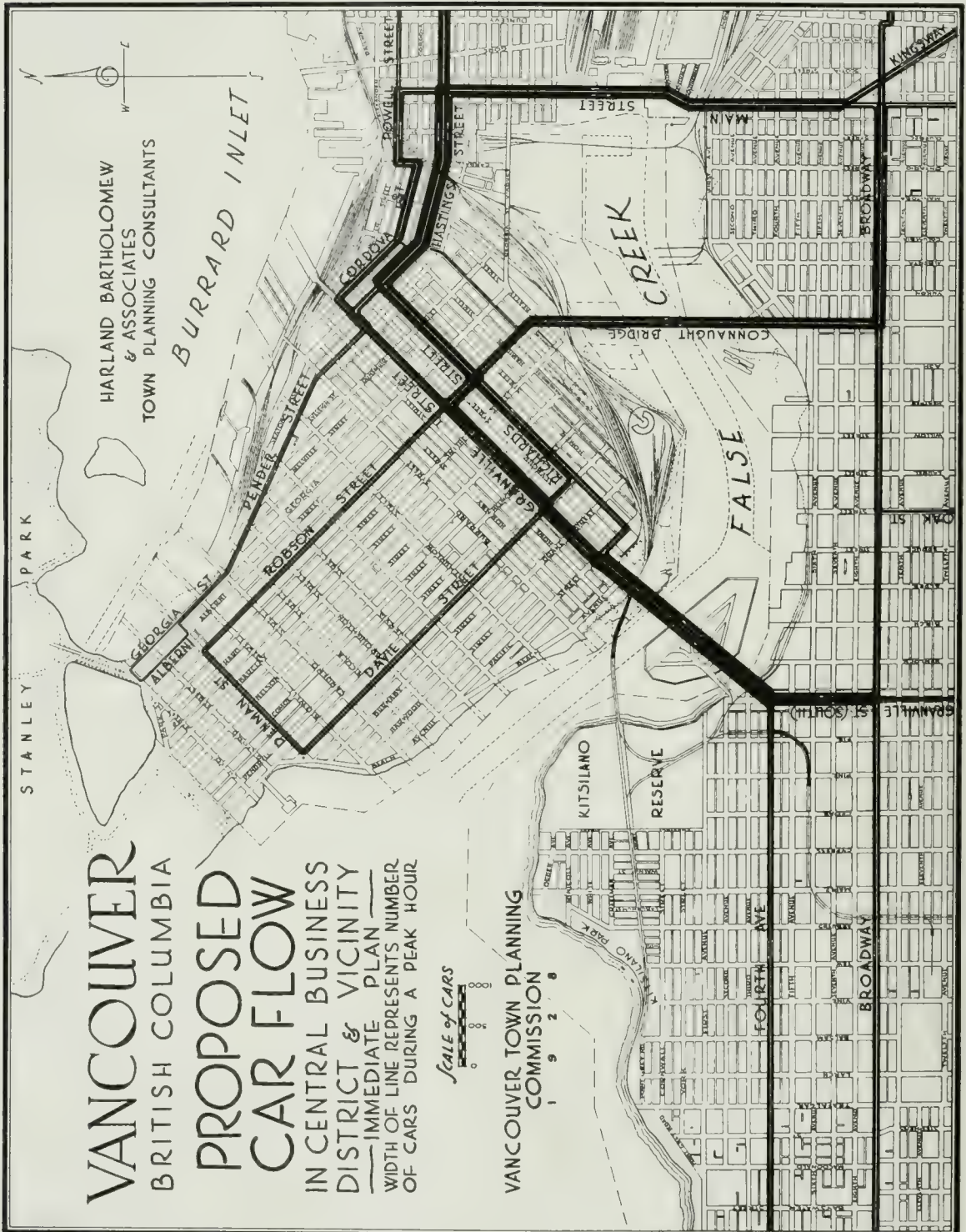
PRESENT CAR FLOW IN CENTRAL BUSINESS DISTRICT AND VICINITY.

(Plate 25).

It will be noted in this diagram that the volume of street car traffic on some of the streets referred to in connection with Plates 23 and 24 is very heavy, while other routes are very lightly used.

Granville Street is the most congested thoroughfare, and it is advisable to relieve this street as much as possible by a greater use of Richards Street.

Hastings Street, between Main Street and Richards Street, is also a very busy thoroughfare. Both Connaught Bridge and Robson Street are lightly used for street cars at present and can take care of a greater proportion of this traffic. The same applies to Davie Street between Richards Street and Granville Street, which is now only used for the interurban cars travelling on tracks on the western side of the street, whilst greater use can be made of the tracks on the eastern side for cars serving the western portions of the city.



PROPOSED CAR FLOW IN CENTRAL BUSINESS DISTRICT.

(Plate 26).

IMMEDIATE PLAN

A better distribution of street car traffic and the consequent relieving of the most congested streets and intersections is depicted on this diagram, which is the proposed re-routing for immediate adoption.

PART I.

SUMMARY OF SUGGESTED CHANGES
FOR IMMEDIATE ADOPTION

1. BROADWAY CROSS TOWN LINE.

Install cross town service on Broadway from Broadway and Commercial to Alma and Broadway and reduce number of Fairview Belt cars as future traffic counts warrant.

2. ROUTES 2-3-5.

Re-route cars 2 and 3 (Main, English Bay) via Broadway, Connaught Bridge and Robson Street, looping via Richards, Davie and Denman. Cars No. 5 (southbound) would be routed via Robson and Denman and Davie to Robson, to Connaught Bridge.

This recommendation may appear somewhat drastic for immediate adoption. However, it is believed that the proposed Broadway Cross Town Line to Commercial will replace route 5 to some extent. The objectionable feature is, of course, the elimination of the direct service of this route from the West End and South Vancouver to the Hastings Street business district, and it would be perhaps advisable to reduce rather than entirely eliminate the present service, maintaining, for a time, routes via both Connaught Bridge and Hastings Street.

3. ROUTE 4.

Re-route No. 4, Grandview-Fourth Avenue cars as follows: Westbound cars continue on Richards to Davie and on Davie to Granville. No change in eastbound cars is suggested; they will turn right on Robson and left into Richards, as at present. Later, if both tracks on Davie Street between Granville and Richards can be relieved of Lulu Island-Marpole interurban cars, the eastbound No. 4 cars may be routed via Davie to Richards, thus doing away with a left-hand turn from Robson to Richards.

4. ROUTE NO. 8.

Route incoming No. 8 (Powell Street cars) via Cambie to Hastings, to Granville, to Cordova, and thence to Powell, etc., as at present.

5. ROUTE NO. 11A.

These cars, Joyce Road-Pender Street, may to advantage follow the same routing above proposed for No. 8 cars, from Cordova Street. That is, inbound cars would be routed from Cordova to Cambie, to Hastings, to Granville, to Cordova, etc.

6. ROUTE NO. 12.

Re-route No. 12 cars (Kitsilano-Hastings) via Granville direct to Hastings, to Richards, to Davie, to Granville, and out as before.

CLEARANCE CURVES.

There are many opportunities for increasing the speed of cars and improving the service generally by re-aligning the track at turns so as to permit the simultaneous operation of double track around curves at street intersections.

The Main-Hastings Street intersection is a case in point. Others are at Hastings-Richards and Carrall-Powell. As a matter of fact, all curves should provide full clearance.

TYPES OF CARS.

The modern street car is especially designed to facilitate loading and unloading. It has platforms of great capacity, steps are low and the motors are geared for a quick pick-up in speed. Perhaps the most efficient type is that with front entrance and side exit, fares collected as conductor is passed. Noise is reduced to a minimum. The vision of the motorman is free and unobstructed. Most of the cars now in use are from fifteen to twenty years old, and although well maintained and evidently remodelled, they are obsolete and should be gradually replaced.

SKIP STOPS AND ONE-MAN CARS.

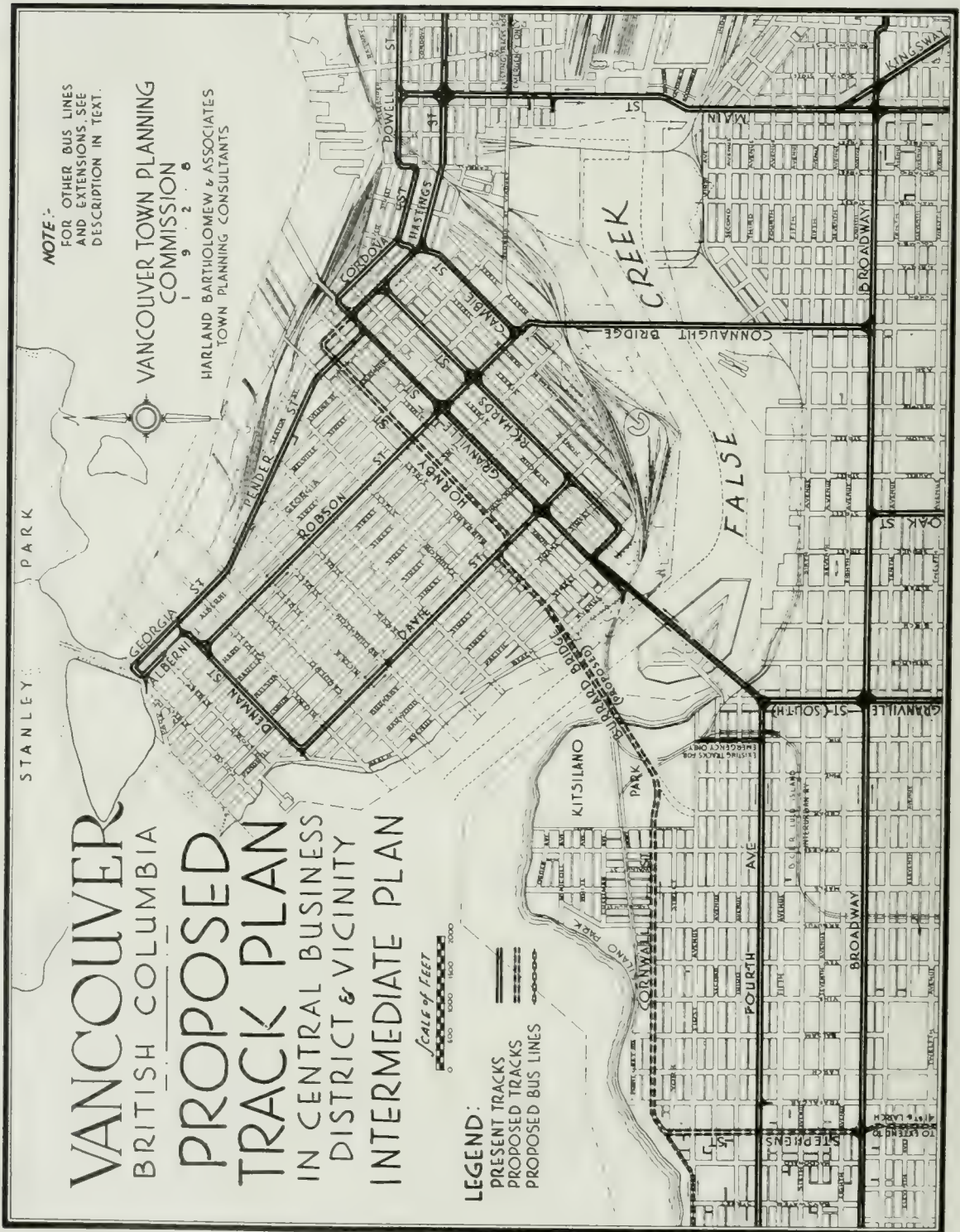
The use of one-man cars is an economy measure for maintaining low fares, but their use generally means a slight loss in quality of service, especially if the most modern equipment of this type is not used. Remodelled two-man cars to suit one-man operation are adaptable on isolated and thinly patronized lines, but for city work the best designs only should be used. The skip-stop question, whereby only alternate streets are made car stops, is also a device to speed up the cars with reduced cost.

TICKET TAKERS IN STREET.

At busy corners during the rush hours it is effective in securing quick loading to have a fare collector on the street to make change and issue transfers, thus relieving the conductor of much work.

WYES AND CROSS-OVERS.

The installation of wyes and cross-overs is expensive, but their use at suitable points is effective in short routing and turning back cars. They save wasteful extra movements and provide emergency service on occasions. There are a fair amount of these in service now. A wye is suggested on Fourth Avenue, on some minor street near Stephens, or if tracks are eventually contemplated on Stephens the wye should be placed there now.



PROPOSED TRACK PLAN IN CENTRAL BUSINESS
DISTRICT AND VICINITY.

INTERMEDIATE PROGRAMME

(Plate 27).

One of the main changes necessary to the carrying out of the intermediate programme is the construction of the Burrard Street Bridge, which directly affects the Stephens-Cornwall-Burrard-Hornby line.

The exact location for this bridge is, at present, undecided. The same situation exists regarding the new alignment or possible abandonment of the Kitsilano Trestle Bridge, so that the existing location of this bridge has been maintained in the meantime for the purposes of this programme.

The establishment of a bus or street car service along Knight Road south of Kingsway (not shown on this plan) is also suggested in the proposals for the intermediate programme.

The construction of the Hastings-Hornby-Pender-Granville loop, in addition to the proposed construction work already referred to here, and under the immediate proposals, is necessary to the carrying out of this programme, which is calculated to take care of a population of 500,000.

PART II.

INTERMEDIATE PROGRAMME
SUMMARY OF RECOMMENDATIONS

The intermediate programme, which should be adopted when the population of Greater Vancouver reaches 500,000, assumes that the major street plan has been adopted and completed in so far as required by the new routes suggested. Also it is assumed that the Burrard Street Bridge will have been constructed.

The following routing changes are suggested as a part of the intermediate programme.

1. BROADWAY BELT AND CROSS TOWN LINE.

One of the most important features of the intermediate programme is the completion of the Broadway Belt and Cross Town Line from Sasamat and Tenth Avenue to Wall Street via Nanaimo Street.

2. ROUTE NO. 1, FAIRVIEW BELT.

With the Broadway Belt Line in operation as above proposed, it is believed the Fairview Belt may be discontinued.

3. ROUTE NO. 8, HASTINGS PARK-PENDER STREET.

Construct loop on Hastings to Hornby, to Pender, to Granville and route No. 8 cars around this loop. This movement will replace the proposed routing from Hastings to Granville to Cordova. The Burrard Street Bridge is classed as of intermediate effect, allowing the through routing of lines 8 and 12, but it is probable that the rejoining of these lines should be considered only in the ultimate plan, as the cost of new construction required is not likely to be justified by the prospective traffic.

4. ROUTES NO. 9 AND 10A, VICTORIA ROAD-STANLEY PARK.

Use the new track on Hastings from Granville to Hornby, to Pender. Opportunity is provided to short loop some of these cars, giving quick service to Victoria Road district. Similar handling is made possible for cars on routes 11B and 9A.

5. ROUTE NO. 12, KITSILANO-HASTINGS-RICHARDS.

The Burrard Street Bridge offers another entrance to the business district and will be most useful in supplying the car capacity that will be required with population growth, but it is not believed the use of Burrard Street for street cars for its entire length should be considered, but that Hornby be tracked instead.

The following new route is proposed:

On Stephens from Broadway, to Point Grey Road, to Cornwall Street, to Burrard Bridge, to Davie Street. From Davie Street the cars may be routed at first over Granville Street to Hastings Street, to Richards Street, to Davie Street and return. Later, when the Hornby Street track is installed, the routing would be from Burrard Street to Davie Street, to Hornby Street, to Hastings Street, thence via Hastings Street to Richards Street as before, or a combination with route 8 effected to give through service.

The advantage of this route is that it can take some of the Fourth Avenue as well as the Sasamat cars now routed via Granville Street Bridge. Direct access is provided to the Kitsilano beach district for any desired volume of car movement.

6. ROUTES NO. 16 AND 13, BOUNDARY ROAD, 10TH AVENUE AND SASAMAT.

Assuming the Broadway Belt Line in use, routes No. 16 and 13 are partially replaced by the belt in connection with routes No. 15 and 13. These latter routes are identical with 16 and 13, but extend to Fourth Avenue and Drummond Avenue.

The following changes may be classed in the intermediate group, consisting of extensions of track and bus service as the demand arises. Among these are:

7. KNIGHT ROAD EXTENSION.

It appears from the population map that the district between Fraser Avenue and Victoria will require service somewhat earlier than others. For the present at least, a bus line on Knight Road to the Lulu Island interurban, making a connection on Kingsway should be sufficient.

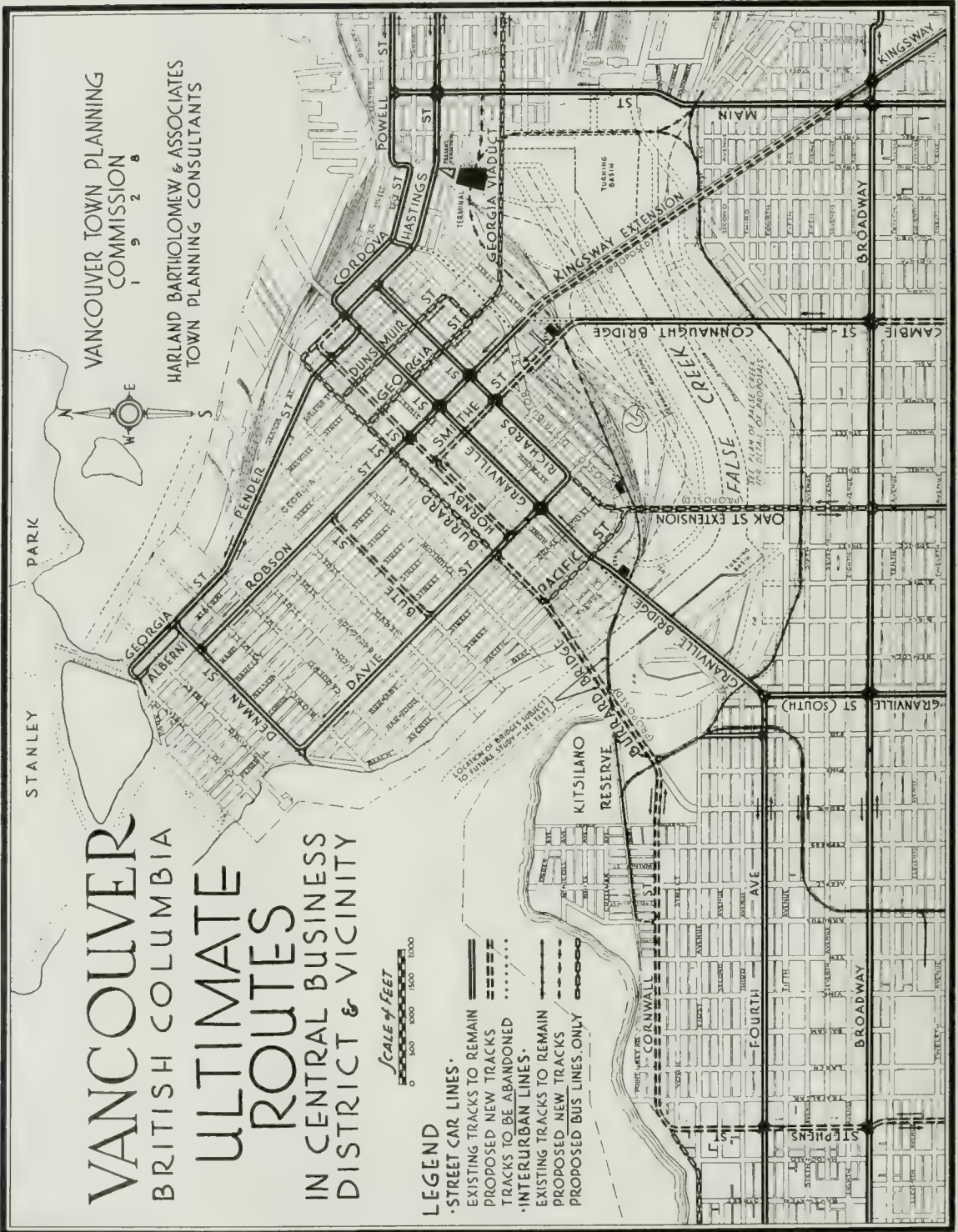
PROPOSED BUS LINES.

Grandview bus extension eastward along Grandview Highway.

Bus line service along south shore of English Bay from Stephens Street westerly.

Bus line to connect the terminus of the Broadway cross town line at Wall and Nanaimo Streets with North Vancouver. It is anticipated that the growth of traffic to and from North Vancouver will soon justify the installation of this route.

Bus line from Forty-First Avenue, along Larch, Trafalgar and Stephens Streets, to Broadway.



ULTIMATE ROUTES IN CENTRAL BUSINESS DISTRICT AND VICINITY.
(Plate 28).

Additional construction changes over and above those already referred to under the immediate and intermediate proposals are the Kingsway and Oak Street extensions, also the diversion of Connaught Bridge to Smithe Street.

The proposed new location of the central depot trackage in connection with the interurban lines would leave both sides of Davie Street between Granville and Richards Streets free for street car movement. This would be necessary, as the present line from Davie Street to Granville Bridge, via Richards and Pacific Streets, will have to be abandoned due to Pacific Street being embodied in the proposed Distributor Street, which should be kept free from street cars.

The Bute Street and Smithe Street lines will form important links in the system, the former especially in connection with the proposed Civic Centre on Burrard Street Site.

See Plate 29, page 124, for the proposed extensions to existing transit lines outside the business district.

PART III.

ULTIMATE PROGRAMME
SUMMARY OF RECOMMENDATIONS

The ultimate programme, which should be adopted when the population of Greater Vancouver has passed 500,000 and is approaching 1,000,000, assumes that the major street plan has been carried out in its entirety, and that the street railway recommendations detailed in the intermediate programme have been effected. This programme also entails the construction of the Kingsway Extension and Bridge, the Oak Street Bridge and the re-routing of the interurban lines.

Inasmuch as the ultimate plan is based upon conditions as they will exist when the population has reached approximately one million people, it is logical to discuss it in order of its development. For example, it is reasonable to suppose that the most rapid growth will take place along the lines of present growth, and the population will become increasingly dense along and in the vicinity of existing transit routes. The first effect will be to require additional car service on the present routes. The next step is to lengthen certain of the existing routes and provide new routes, first by bus and then street cars. Cross town lines will follow shortly afterward and finally rapid transit elevated lines will become a subject for consideration.

ULTIMATE ROUTING—BUSINESS DISTRICT.

(Plate 28, Page 120).

For convenience in estimating future requirements, the Greater Vancouver District is divided into four sections, each of which, except the West End, has a well-defined entrance into the business district of Vancouver as it is today.

<i>District</i>	<i>Entrance</i>
A.—West End	Davie-Robson-Pender
B.—District West of South Cambie	Granville Street Bridge
C.—South Cambie to Central Park Line	Hastings-Cordova.
D.—Central Park Line to Burrard Inlet	Hastings-Cordova.

The following table shows the estimated present and future population of each district and their transit requirements.

Section	Present Population.	Future Population.	Cars per Maximum Hour, Present.	Cars per Maximum Hour, Future.	Cars per Maximum Hour Based Upon 500,000 Population.
A.....	16,700	67,500	66	284	142
B.....	53,500	208,800	120	480	240
C.....	92,960	344,480	119	476	238
D.....	76,908	347,920	108	500	250
	239,868	968,700	413	1,740	870

In considering the above table it is necessary to bear in mind the influences which have a tendency to affect the transit requirements. Among which are:

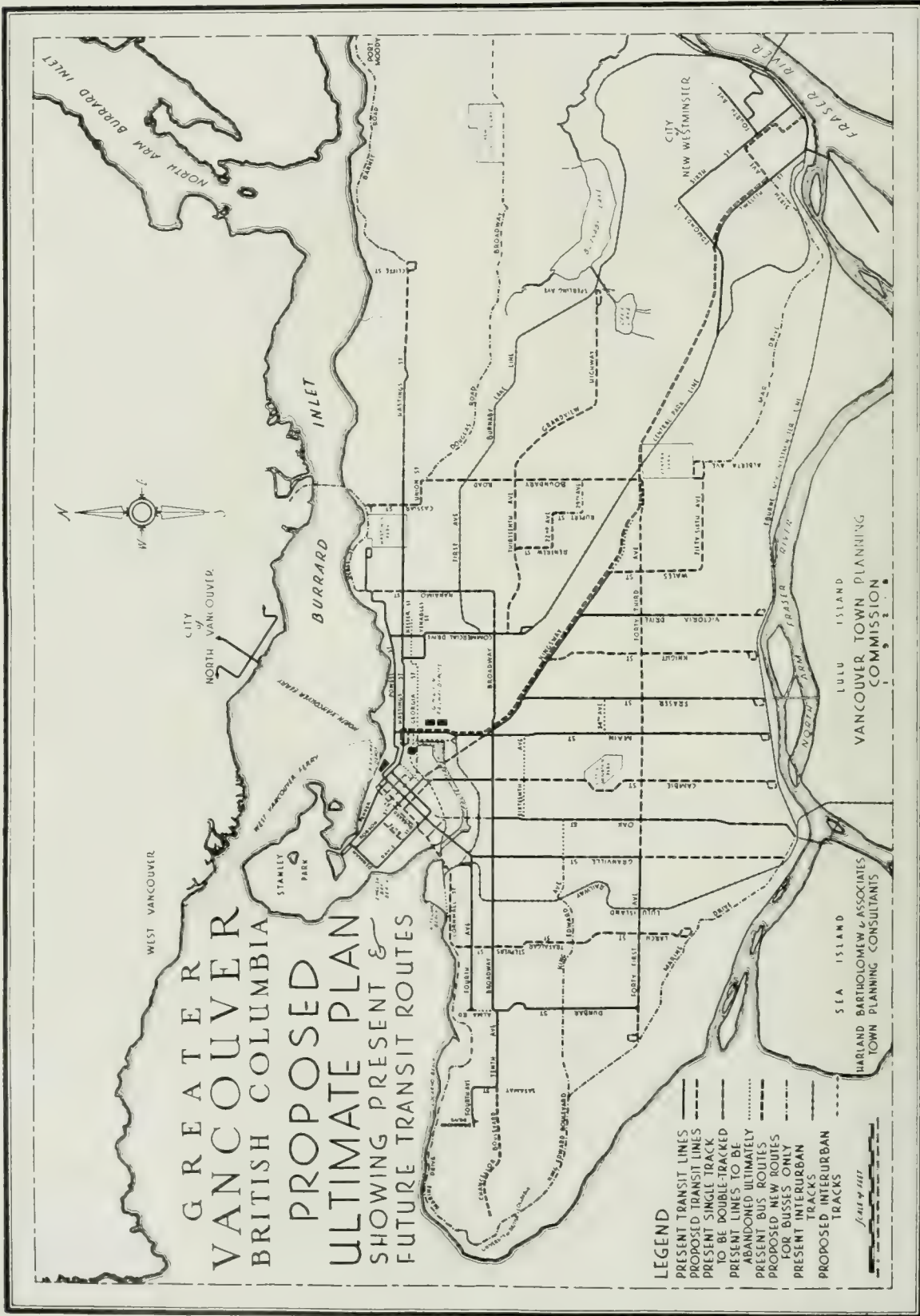
1. Increased capacity of new transit equipment.
2. Double-heading of cars.
3. Increased use of automobiles.
4. Decrease or increase of riding habit.
5. More intensive use of streets by vehicles and pedestrians.
6. Cross town and belt line service displacing through city movement.
7. Building up of local business centres.
8. Installation of clearance curves at street intersections.

The present equipment as it is replaced will doubtless have greater capacity, probably from ten to twenty-five per cent., which will gradually become effective to some extent in meeting additional requirements.

The double-heading of cars during rush hours is commonly practiced but is not always economical or efficient, as speed is reduced, operation around turns is generally more difficult, and accidents are more frequent.

Street congestion retards car movement, and when this is reduced to four or five miles per hour, for example, more people will walk. Naturally, the long haul passengers are not particularly affected.

It is impossible to estimate the effect of such a line as the suggested Broadway Cross Town and Belt route upon the flow of traffic through the business district. However, there will be a noticeable relief, especially when such streets as Cordova, Granville, Hastings and Richards become increasingly congested. Just as water and electricity follow the path of least resistance, so will an appreciable amount of traffic take to the Broadway Belt Line.



The development of new local commercial centres usually follows growth in population. The shift of business districts and the location of new neighbourhood commercial centres are intimately related to transit routes. That is to say, a business district will not move beyond the limits of good transit service, nor do exterior local centres ordinarily form except at intersections of well used transit lines.

Making due allowance for the traffic influences which may affect street car requirements, several conclusions are obvious from the foregoing table.

1. Long before a population of 500,000 is reached, sections C and D must have other entrances to the business district besides Hastings and Cordova Streets. The combined capacity of these two streets is less than half that required for a population of 500,000, and for a million population less than one-fourth the capacity necessary.
2. The three routes serving Section A (West End) should be sufficient for all time.
3. The Granville Street entrance for Section B will become inadequate before a population of 500,000 is attained, and will have only about one-fourth the desired capacity, assuming a population of one million.
4. Even with all possible entrances to the present business district in effect, it seems evident that the traffic resistance will be such as to force the development of other exterior business districts.

PROPOSED ULTIMATE PLAN SHOWING PRESENT AND PROPOSED TRANSIT ROUTES.

(Plate 29).

With the suggested street car and bus line extensions completed, Greater Vancouver would have a well distributed transit service, especially in the areas where consistent development is anticipated.

Some sections of Burnaby, especially in the north-east portions, have not received a detailed study, it being deemed advisable to leave this for future consideration. Bus service, suggested along some of the routes, may eventually be replaced by a street car service, if future development should so warrant.

The Broadway Cross Town Belt Line, linking Sasamat Street and 10th Avenue West with Wall and Nanaimo Streets, and the 41st and 43rd Avenue Belt Line, linking Camosun Street and 41st Avenue with Cassiar and Wall Streets via Boundary Road, are important features of this plan.

These lines, together with the Lulu Island and New Westminster Interurban Line, north of the Fraser River, should afford an excellent lateral service.

This plan, it is estimated, will adequately serve a population of 1,000,000 people.

DESCRIPTION OF ROUTES.

(Plate 29, Page 124).

Under the ultimate programme many combinations of routing are possible. The essential objective to accomplish is the provision of a sufficient number of routes through the business district. At present we have only Granville Street on the east-west axis and Robson Street on the north-south axis for through direct routing. Richards Street relieves Granville Street for most of its length, but is not in the direct line of travel for some cars.

Assuming both Richards and Granville Streets working to full capacity, or handling, say, 240 cars per hour, rush period, it will be seen that they are entirely inadequate to take the additional traffic of a population of one million. As a matter of fact, Granville Street is about worked to the limit now, and Hastings Street, with its 149 and 151 cars per hour, is considerably over-crowded. Cordova Street is comparatively lightly used (59 cars), but this thoroughfare is so intensively industrial that to put more street cars over it is scarcely advisable.

This brings out the extreme desirability of constructing the Kingsway Major Highway extension and bridge as a relief to the Hastings-Cordova Street entrance. It may prove necessary eventually to make use of the Georgia Street Viaduct for street cars as well as busses, undesirable as such a step may be.

It is also apparent that in the ultimate programme not only Burrard Street Bridge but Burrard Street must be utilized for street railway purposes, at least as far as Davie Street. Hornby Street is better adapted for transit purposes than Burrard Street, and it is recommended that Hornby Street be double tracked for street cars, retaining Burrard street, north of Davie Street, for bus lines.

The Oak Street Bridge is somewhat far in the future but of considerable utility in the ultimate programme, especially in connection with the tracks on Hornby Street.

Summarizing the situation in the down town business district, the routing scheme under the ultimate plan would be as follows:

WEST END (District A).

Entrance routes are Pender, Robson and Davie Streets. Additional service provided by a looping track in Bute Street from Davie to Robson.

POINT GREY AND SOUTH VANCOUVER, West of South Cambie Street (District B).

Entrance routes are via Burrard Street, Granville Street and Oak Street Bridges. Burrard Street cars would operate from bridge on Burrard to Davie, to Hornby, to Hastings, forming through routes with other lines to the east and south-east, or looping within the down town district.

Granville Street cars may use Granville Street for through routing. Oak Street cars preferably would move from the north bridge end across to Richards and either proceed easterly via Richards or use the Davie-Bute-Robson loop. It is likely that operating conditions would favor buses for this route via Pacific Street to Burrard, to Pender or Hastings, operating through service from South Cambie Street.

SOUTH CAMBIE TO CENTRAL PARK LINE (District C).

Entrance routes are via Connaught Bridge and proposed Kingsway extension. From Connaught Bridge the car line would take the proposed new connection to Smithe Street, thence directly through to Bute Street, looping as desired.

Kingsway cars would use Robson as a through route to the Stanley Park district or loop and combine with other routes.

CENTRAL PARK LINE TO BURRARD INLET (District D).

Entrance routes are via Georgia Street, Hastings and Cordova Streets.

If cars are operated on Georgia Viaduct they would preferably be turned into Dunsmuir via a new approach on line with that street to the viaduct and proceed directly to Hornby Street for combination with other routes or looping. An alternative plan is to operate on Georgia Street as far as Hamilton, thence south to Smithe Street. Neither route is wholly satisfactory, and it is not believed justifiable in any event to use Georgia Street for street cars, especially west of Richards. Dunsmuir gives the better distribution.

As in the case of the proposed Oak Street line, buses will prove more adaptable to the use of Georgia Street than street cars. In this case, the buses could enter via Georgia and return via Dunsmuir and Hamilton Streets, a very efficient routing. In the plan, this latter route is indicated.

Routing via Hastings Street and Cordova Street would not be materially changed. Obviously every opportunity is afforded to route the Hastings and Powell Street lines direct through the business district by way of Hornby, Granville and Richards Streets and to combine as desired with other routes.

ULTIMATE PROGRAMME

SUMMARY OF PROPOSED EXTENSIONS TO EXISTING TRANSIT LINES.

1. GRANVILLE STREET SOUTH OF FORTY-FIRST AVENUE.

A double track line ultimately to be provided on Granville Street south from Forty-First Avenue to the Lulu Island line of the British Columbia Electric Railway. That portion of this route now single track between King Edward Boulevard and Forty-First Avenue will probably be made double track considerably in advance of this proposed extension.

2. MAIN STREET SOUTH FROM FIFTY-SECOND AVENUE.

Double track to be provided with through service to business district and contact with Lulu Island line.

3. FRASER AVENUE.

Extend double track to connection with Lulu Island line.

4. VICTORIA ROAD.

Extend double track south to connect with Lulu Island line.

5. KINGSWAY ROUTE EXTENSIONS.

(a) Knight Street line, following in general Knight Road, which will be a major thoroughfare, to a loop at the Lulu Island line.

(b) Wales-Central Park: An extension leaving Kingsway at about Thirty-Fourth Avenue, on Wales to Fifty-Sixth Avenue, to Ocean View Cemetery and Central Park.

(c) Bus line extension from Ocean View Cemetery and Central Park running south-easterly to and on Marine Drive.

6. FORTY-FIRST AVENUE.

Lines to loop at Camosun to connect with proposed Marine Drive bus line.

7. ELLESMERE-BARNET ROAD BUS LINE.

An extension of the Hastings Street line to serve the shore section of Burnaby to Port Moody.

ULTIMATE PROGRAMME

SUMMARY OF PROPOSED NEW ROUTES

OUTLYING OR EXTERIOR ROUTES.

1. CAMBIE STREET ROUTE.

A direct route from the B.C. Electric Lulu Island line on the south to the business district via Connaught Bridge.

2. STEPHENS STREET ROUTE TO MARINE DRIVE.

This would be a shuttle extension of the Kitsilano-Stephens Street route proposed under the intermediate programme, in order to penetrate the district south of Broadway to Marine Drive. Bus operation from Marine Drive to Broadway and Stephens via Larch Street, Trafalgar and Stephens.

3. MARINE DRIVE BUS LINE.

A continuous route from the Kitsilano Beach around Point Grey, the University District to the intersection of South Granville Street, and the Lulu Island interurban line.

4. SEMI-CROSS TOWN BUS LINE—KING EDWARD BOULEVARD.

A feeder route along the alignment of King Edward Boulevard from Granville Street to a connection with the Marine Drive-University bus line above described.

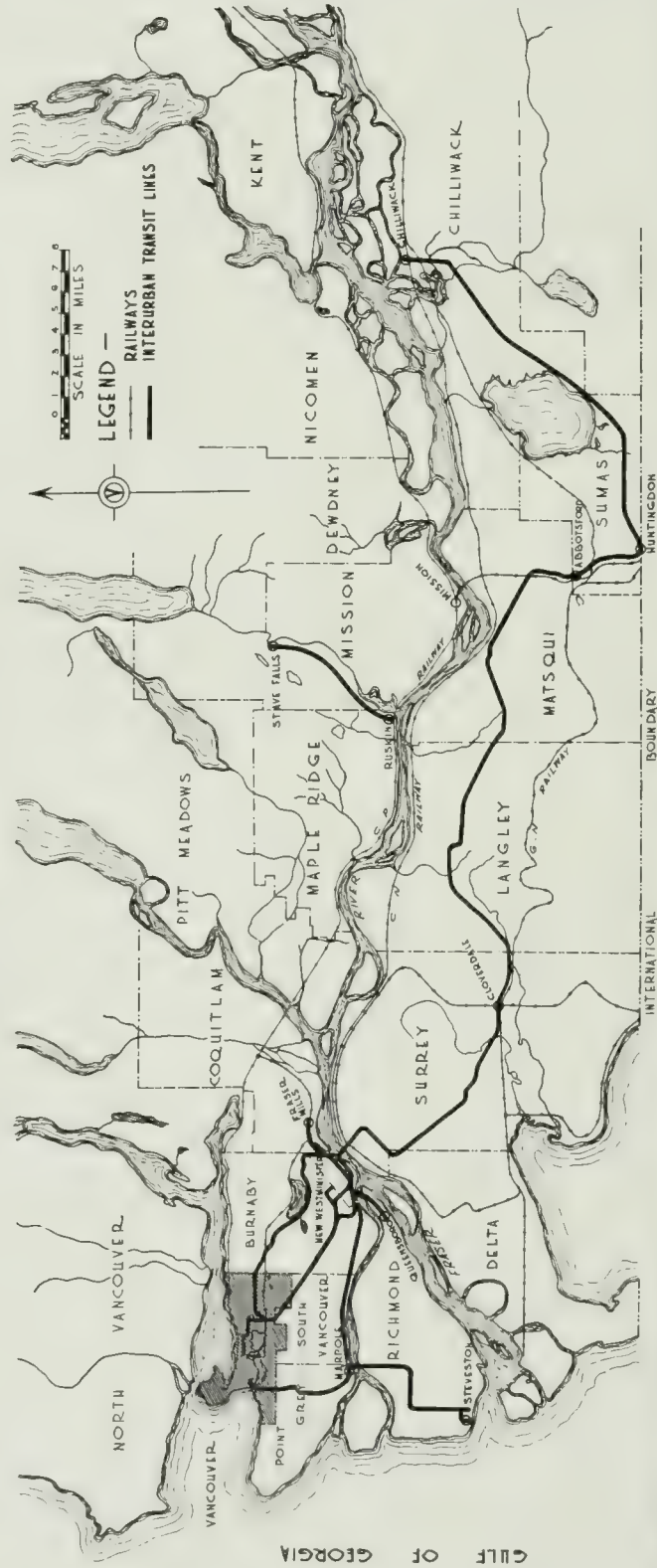
5. FORTY-FIRST AVENUE-FORTY-THIRD AVENUE CROSS TOWN BELT LINE.

This line ultimately to operate from Marine Drive and 41st Avenue, on 41st Avenue to Boundary Road, to Union, to Cassiar, to the vicinity of Second Narrows Bridge.

6. GRANDVIEW HIGHWAY ROUTE.

A new route taking cars from Broadway and Commercial Drive and giving direct service to the business district. The line would terminate at the B.C. Electric Company's Burnaby Lake line at Sperling Road.

PLAN SHEWING INTERURBAN TRANSIT LINES VANCOUVER & DISTRICT



BASE MAP SUPPLIED BY B. C. ELECTRIC RAILWAY CO.

INTERURBAN LINES.

(Plate 30).

Greater Vancouver is well served with interurban lines, which afford a speedy service from points outside the city.

These lines will increase in importance as the city continues to grow. When Vancouver's population reaches 1,000,000 the Fraser Valley development will further increase the service along these lines.

Few suggested changes are made regarding these lines outside those previously referred to and shown on Plate 28, page 120.

The proposed location of the Central Interurban Depot and approaches will necessitate using Broadway between Commercial Street and Main Street for the Burnaby Lake and Central Park lines. These cars are, at present, routed via Commercial Drive and Hastings Street.

PART IV.

INTERURBAN LINES AND RAPID TRANSIT

Greater Vancouver is fortunate in the location of the three interurban branches of the B.C. Electric Company. These routes, Lulu Island, Burnaby and New Westminster, penetrate well separated areas, and their effect in providing thirty-five minute service to Vancouver within a six to eight mile limit is well illustrated on the time zone map, Plate 30, page 130.

A brief history of these interurban lines and other B.C. Electric Railway transit lines follows:

CENTRAL PARK LINE, Vancouver to New Westminster.

This line was constructed in 1891, also the Edmonds-Sapperton (via 12th Street) and Edmonds-6th Street line, which form the continuation of the Central Park line through New Westminster, a total of 14.57 miles. The line was double tracked for a distance of 2.6 miles from Cedar Cottage (at city boundary) to Central Park in 1910. In 1912 it was further double tracked for 2.2 miles from Central Park to Highland Park and continued into New Westminster via the Highland cut-off, the distance being 4½ miles from Highland Park.

LULU ISLAND LINE.

The Lulu Island line, which connects the city with Steveston (Lulu Island) via Marpole, a total length of 14.68 miles, was constructed in 1905, and was double tracked from the city to Marpole, 6.6 miles in 1913. It is owned by the Canadian Pacific Railway and leased to the B.C. Electric Railway.

EBURNE (LULU ISLAND) NEW WESTMINSTER.

This line, 10.6 miles in length, was laid in 1909.

NEW WESTMINSTER-CHILLIWACK.

Laid as far as Abbotsford, 39 miles, in 1909, and extended on to Chilliwack in 1910, an addition of 24.6 miles, making a total length of 63.6 miles.

BURNABY LAKE LINE.

Connects the city with New Westminster via Burnaby Lake, and was constructed in 1911, a total distance of 9.57 miles from Commercial Drive.

STAVE FALLS LINE.

The Stave Falls line is used principally for the B.C. Electric Railway employees and for freight, and operates between Ruskin and Stave Falls Power Plant. It is about 5½ miles long and was started in 1911. Besides the B.C. Electric Railway employees, loggers, travellers and others use this line, paying fare. The trains are operated with motors and make connection with the morning and evening C.P.R. trains at Ruskin.

NEW WESTMINSTER LINES.

These lines, linking the various sections of New Westminster, are practically entirely made up of the various approaches into it via the interurban lines already described. Minor links, such as the Sixth Street-Columbia-Fourth Street connection (.54 miles), and the Millside and Queensboro line, connecting Fraser Mills (north-east of New Westminster) with Lulu Island on the east side (6.6 miles), represent the only additional lines. These were laid in 1911.

NORTH VANCOUVER.

The first lines were laid in North Vancouver in 1906. These included over a mile of tracks northward along Lonsdale from the Ferry Wharf, also branches east and west. 5.47 miles were laid in that year. By 1910 the Lynn Valley and Capilano lines were completed with an additional four miles. From this period onward the only construction carried out was the extension on Lonsdale from Grand Boulevard to Windsor Road in 1912, a distance of .42 miles, thus bringing the total track mileage to 9.89 miles.

The North Vancouver Ferry, on a typical day, carries about 4,500 passengers each way to and from the city.

WEST VANCOUVER.

Private buses operate along Marine Drive from the North Vancouver street car terminus to West Vancouver, which is also served by the West Vancouver Ferry. Figures given on the 14th August, a typical day, show that 2,912 passengers travelled on the West Vancouver ferry, approximately 50% going either way.

BUS LINES.

GRANDVIEW BUS LINE.

The Grandview Bus Line, which serves the southern portion of Hastings Townsite, started in 1923. It operates two buses over a mileage of 2.5. Bus seating capacity, 29.

RAPID TRANSIT LINE.

Runs between Vancouver and New Westminster, 12.2 miles. Was started in 1924, operating six buses. In 1926 the buses were increased to 13. Bus seating capacity, 26 to 33.

UNIVERSITY BUS.

This line commenced in 1925, operating between 10th Avenue West, Sasamat and the University of British Columbia, the route being two miles.

VANCOUVER AND CHILLIWACK.

This bus line via New Westminster and Abbotsford has two buses, was started in 1926. The mileage is approximately 76. The bus line connecting Abbotsford with Mission was established in 1927.

The buses between Vancouver and Chilliwack make three trips daily, the Mission line connecting with these at Abbotsford. The seating capacity of the buses is 33.

Private coaches also operate along the main highway between Vancouver and Chilliwack, going through to Seattle and other points.

INTERURBAN ROUTES AND UNION STATION NECESSARY.

The interurban routes should be preserved for distinctively rapid transit uses, the street cars and bus lines to serve as feeders thereto.

It will be observed from the time zone map that there is a noticeable slackening of speed of interurban cars through the more populous areas, and as they approach the business district, especially where the same trackage is used for street cars.

In order to retain the advantages of rapid transit, independent routes should be sought where possible, and, in addition, a union station provided from which all trains may be started.

PROPOSED ROUTING AND UNION INTERURBAN STATION.

A union interurban station is planned on Pender Street, about opposite to the present interurban station. This location combines the advantages of close proximity to the business district and affords the opportunity for a combined station for handling all interurban express and light freight with the minimum of extra switching movements. It may be possible to maintain the present station on Hastings Street as a head house with waiting rooms, using passages either overhead or underground to reach the station tracks.

ROUTING.

Lulu Island cars, after crossing False Creek, would skirt the warehouse district on the north side of the Creek, passing underneath the several bridges. It is proposed to bring the Burnaby and New Westminster lines into East Broadway at Commercial to Main, to Keefer, thence to the new station location. This routing for the Burnaby and New Westminster lines is not entirely satisfactory, as it traverses streets also used by street cars. However, it creates good destination points at Main and Broadway and the depot districts of the Great Northern and Canadian National Railways, giving an excellent distributive effect.

For the present and for some time, assuming retention of the present Hastings Street interurban station, a better routing for the Burnaby line would be via Nanaimo Street to Hastings Street, thence direct to destination. The proposed major highway connection between Georgia Street and Charles Street was considered as an alternative route for both street cars and interurban lines, but it is believed that as a high-speed, through-traffic way for vehicles exclusively, it would be of more value to the city.

PART V.

SERVICE TO PROPOSED CIVIC CENTRE

Inasmuch as the civic centre will embrace, among other buildings, a public library, a museum and an auditorium, the character of transit service required will be variable. That is to say, the daily transactions of many people in all these buildings will require regularly scheduled cars, while special events will create a heavy demand for extraordinary service. Other conditions are that the most direct routing possible should be provided both for regular and extraordinary service and that ample storage capacity in the vicinity of the civic centre be available.

Under the present system of routing, the proposed civic centre would be reached directly by cars on Davie Street routes 2, 3 and 5, that is, the Main-Davie and East Broadway-Robson-Davie lines. This gives direct service to West End and to territory tributary to Main Street. For all other sections of the city one or two transfers would be required.

With the intermediate programme of routing in effect, the accessibility of the civic centre is much improved. The Burrard Bridge will have been constructed, which permits of much direct and special routing from the Point Grey and South Vancouver districts. At first, preceding the adoption of the ultimate programme, tracks may be utilized over the bridge and on Burrard Street to a connection with Davie Street tracks. Thus any one of several combinations of routes is made possible. The proposed Kitsilano-Stephens Street car line, which would replace route 12, Kitsilano, gives direct service to a large area, and special routing for extraordinary demand is made practicable from every section of the city.

The ultimate programme affords direct regular routing from every section of the city. This is effected by the proposed Burrard-Hornby Street track, Davie Street track and the proposed looping track in Bute Street, from Davie to Robson Street. Not only is very good direct routing secured, but incidentally ample assembling space for cars is available, such as in the Bute Street loop track, which may be temporarily detoured by regular cars. With the generous looping arrangement which the ultimate programme gives, both special and regular service to the civic centre from any route in the city is easily rendered.

PART VI.

STATISTICS—VANCOUVER CITY LINES, 1927

<i>Line</i>	<i>Car Mileage</i>	<i>%</i>	<i>Total Revenue Passengers</i>	<i>%</i>
1. Fairview Inner and Outer.....	896,674	9.3	6,545,877	11.6
2-3. Main, Davie, English Bay.....	942,969	9.8	6,904,499	12.2
4. Grandview West, Fourth Ave.....	1,382,964	14.4	8,950,096	15.8
5. E. Broadway-Robson-English Bay.....	803,711	8.4	5,781,454	10.1
6-7. Fraser-Kerrisdale.....	1,271,686	13.3	7,015,085	12.4
8. Hastings Park and Pender.....	303,968	3.3	1,571,946	2.8
9-10. Victoria-Stanley Park.....	682,014	7.1	3,550,016	6.3
11. Joyce-Stanley Park.....	402,535	4.2	1,943,449	3.5
12. Kitsilano-Richards-Hastings.....	182,926	1.9	945,812	1.7
13-14, 13-15, 13-16. Broadway West and Hastings.....	1,884,285	19.9	10,227,053	10.0
17. Marpole, Oak, Hastings.....	244,025	2.6	1,072,029	1.9
18. Main-16th-Broadway-Oak.....	87,033	0.9	346,866	.6
Main Street South.....	75,844	0.8	142,498	.3
Nanaimo-Hastings.....	106,738	1.1	328,523	.6
Hastings Extension.....	110,189	1.1	362,044	.7
Grandview Bus.....	82,565	.9	284,375	.5
University Bus.....	85,243	.9	465,892	.9
Chartered.....	1,899		8,877	...
Observation.....	9,389		16,467	...
Race Buses.....	5,367		6,266	...
	<u>9,562,024</u>		<u>56,470,124</u>	

INTENSITY OF TRACK USE
JUNE, 1928

<i>Location</i>	<i>Cars per Hour, Single Track.</i>	
	<i>Base</i>	<i>Rush</i>
Granville, Hastings to Cordova	32	57
Granville, Pender to Hastings	74	127
Granville, Robson to Pender	57	103
Granville, Davie to Robson	53	113
Granville Bridge	56	111
Richards, Robson to Hastings	40	75
Richards, Davie to Robson	18	30
Cordova, Granville to Main	38	57
Hastings, Main to Richards	69	151
Richards to Main	69	149
Hastings, Main-Clark Drive	33	69
Main, Hastings-Kingsway	69	127
Kingsway, Broadway-Fraser	33	47
Kingsway, Fraser-Joyce	17	30
Granville, Shaughnessy-Broadway	12	17
Granville, Broadway-Fourth	30	47
Broadway, Dunbar-Granville	18	30
Broadway, Oak-Main	18	36
Robson and Davie, West of Granville	12	30
Pender, West of Granville	9	16
Powell, Main, Hastings Park	5	12
Fourth Avenue, Alma-Granville	12	30
Clark Drive, Venables, Commercial	15	39
Broadway, Kingsway, Commercial	12	30
Hastings, Clark Drive, Boundary Road	18	30
Fraser Avenue, Kingsway, South Vancouver	6	17
Broadway, Cambie, Main	12	30
Main, Broadway, South Vancouver	12	20
Sixteenth Avenue, Oak, Main	6	15
Oak, South Vancouver to Sixteenth Avenue	9	13
Oak, South of Sixteenth Ave.	3	4
Connaught Bridge	6	6
Kitsilano Park to Granville	5	6
Dunbar, 10th Avenue to 16th Avenue via Alma Road to Dunbar	6	15
Broadway, Granville, Oak	12	30

TABLE SHOWING SEATS PROVIDED AND
PASSENGERS CARRIED, ETC.
26 JULY, 1928.

<i>Route</i>	<i>Seats Provided</i>	<i>Passengers Carried</i>	<i>Surplus Seats</i>
1. Fairview, Outer and Inner.....	41,536	22,074	19,462
2-3. Main-Davie and English Bay.....	40,040	29,379	10,661
4. Grandview and Fourth	45,144	30,774	14,370
5. East Broadway-Robson-English Bay.....	39,952	23,085	16,867
6-7. Fraser-Kerrisdale.....	25,872	29,905	—4,033
8. Hastings Park-Pender Cross Over.....	9,768	4,663	5,105
9-10. Victoria-Stanley Park and Robson.....	24,024	16,066	7,958
11. Joyce-Pender Cross Over and Stanley Park.....	11,440	6,480	4,960
12. Kitsilano-Richards-Hastings....	8,712	6,466	2,246
13-14-15-16. Boundary, Dunbar, Sasamat, etc.....	48,840	43,325	5,515
17. Marpole-Oak-Hastings.....	5,016	4,034	982
18. Main-16th Ave.-Cambie and Hastings.....	4,928	1,707	3,221
Main Street South.....	5,808	783	5,025
Nanaimo	7,040	2,249	4,791
Hastings Extension	5,632	1,135	4,497
	323,752	222,125	101,627

CITY PASSENGER CARS

MAKE OF CAR	SEATING CAPACITY										MAXIMUM					Total Cars	
	38	40	42	43	44	45	47	48	55	80	85	90	100	120	140		150
Single-End P.A.Y.F., Two-Man.	30	..	108	23	..	15	1	8	..	30	108	23	15	1	8	..	185
Single-End P.A.Y.F., two-car trains	..	6	..	..	20	..	10	..	10	..	..	..	..	..	10	10	20
Double-End P.A.Y.F., one-man.	8	2	..	..	..	..	..	..	..	8	..	2	..	..	..	..	39
Double-End P.A.Y.F., Treadle Exit, one-man	6	..	..	..	..	..	..	..	..	6	..	..	..	..	..	..	10
	57	8	108	23	20	15	1	18	10	57	134	25	15	1	18	10	260

11,027 Seats

23,840 Passengers

INTERURBAN AND PASSENGERS

MAKE OF CAR	SEATING CAPACITY										Total Cars						
	30	48	54	56	58	60	62	64	66	68							
Local Passenger 45' H.L. Control	..	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9
Local Passenger 50' H.M. Control	12	..	..	..	..	..	..	12
Local Passenger 51' M. Control	28	..	28
Passenger 54'-55' H.L.F. Control	6	3	..	12
Passenger 50' Trailer, H.L.F. Control	4
Combination 55' H.L.F. Control	3
Combination 50'	1
	1	12	4	12	3	6	3	28	6	3	3	28	6	3	28	6	69

4,006 Seats

TABLE SHOWING LINES ISSUING TRANSFERS
TO FAIRVIEW BELT LINE
26 JULY, 1926

<i>Line</i>	<i>No. of Transfers</i>
2-3. Main-Davie and English Bay.....	347
4. Grandview-Fourth Avenue.....	589
5. East Broadway-Robson-English Bay.....	458
6-7. Fraser-Kerrisdale	525
8-12. Kitsilano-Powell.....	318
9-10. Victoria-Robson and Stanley Park.....	425
11. Joyce-Pender and Stanley Park	192
13-14-15-16. Boundary-Dunbar to Sasamat, etc.....	851
17. Marpole-Oak-Hastings	202
18. (a) Main-16th-Oak-Broadway	161
(b) Main-16th-Oak-Hastings	
Broadway-Nanaimo-Hastings	44
Grandview Bus.....	64
Main Street South	18
Hastings East Extension.....	16
North Vancouver Ferry.....	41
Lulu Island Interurban.....	387
Westminster Branch Interurban.....	282
Burnaby Lake Branch.....	47
	4,947

TABLE SHOWING NUMBER AND LOCATION OF TRANSFERS
RECEIVED ON THE FAIRVIEW BELT LINE
26 JULY, 1928

<i>Location</i>	<i>Number</i>	<i>Direction</i>
Main and Broadway.....	1565	West
Main and Hastings	960	West
Granville and Broadway.....	505	East
Granville and Pacific.....	159	East
Granville and Fourth.....	215	East
Granville and Davie.....	463	East-West
Granville and Robson	202	West
Granville and Pender.....	138	East-West
Granville and Hastings	159	West
Hastings and Richards	29	West
Hastings and Cambie.....	188	West
Hastings and Carrall.....	205	West
Broadway and Oak	175	East

TRANSPORTATION

RAILROADS AND HARBOUR

(Plate 31, Page 142).

RAILROAD SECTION

VANCOUVER'S RAILWAYS.

The future development of Vancouver is not only a matter of vital importance to its own people and to the communities immediately adjacent, but it is of equal interest to the Province of British Columbia and to the Dominion as a whole. Vancouver, by reason of its strategic and unrivalled location, is a national asset. It affords convenient egress and ingress for products made and consumed in Canada. It is at the cross roads of coastwise and transcontinental shipping. Its harbour is ideally sheltered, commodious and ever open and free from ice. It is the western terminus of Canadian railways. Added to these advantages are its equable climate and almost limitless natural resources within economic reach, such as water power, forests, minerals, fisheries and agriculture.

By reason of the many ship and railroad lines focusing here, Vancouver functions as a primary unit in the economic structure of the Dominion.

It is of first importance that there should be a spirit of co-operation between the various authorities concerned in the development of Vancouver rail and harbour facilities until such time as an agreement is reached on a specific plan for the future.

CONCLUSIONS AND RECOMMENDATIONS.

The following recommendations are offered as constituting basic considerations involved in formulating such a plan.

BASIC CONSIDERATIONS FOR THE PLAN.

INTENSIVE RAILROAD ACTIVITY ALONG THE NORTH SHORE OF FALSE CREEK, BETWEEN PENDER AND GRANVILLE STREETS, IS NOT CONDUCTIVE TO CIVIC DEVELOPMENT, AND MUCH WORK PERFORMED HERE MAY TO ADVANTAGE BE TRANSFERRED TO OTHER LOCALITIES.

Railroad operations here should be limited to service to the industries and warehouses in the False Creek district. Switching should be performed by electric locomotives in order to eliminate smoke and noise.

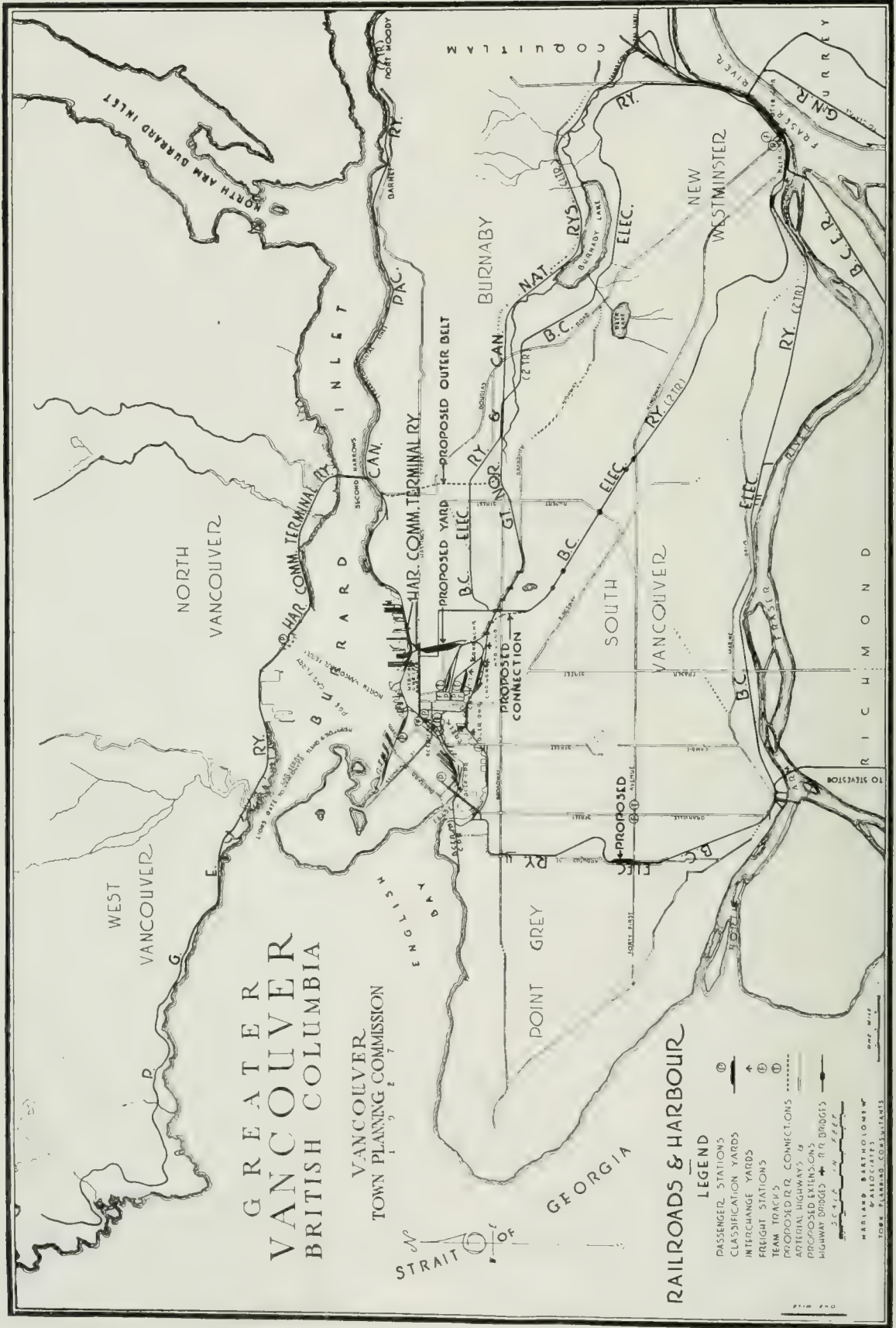
THERE IS A LACK OF CONVENIENTLY ARRANGED FREIGHT YARDS OF SUITABLE CAPACITY.

A need exists for a large freight yard in the east section of the city to be used by the Harbour Commission Terminal Railway primarily for port service in connection with the grain movement, but also as a common interchange yard for all roads.

CONSIDERABLE SPACE FOR RAILROAD FREIGHT YARDS ON THE NORTH SHORE SHOULD BE RESERVED.

It may be anticipated that future shipping and industrial activity on the North Shore will exceed that on the South Shore of Burrard Inlet.

THE BRITISH COLUMBIA ELECTRIC RAILWAY IS TOO RESTRICTED IN ITS SCOPE OF OPERATIONS. ITS TERMINAL FACILITIES AND SERVICE TRACKS TO INDUSTRIES ARE INADEQUATE.



The usefulness of this electrically operated railroad to the industrial life of Vancouver is being daily demonstrated. It originates an impressive amount of freight business on its own lines and is the agency through which each of the railroads maintains contact with certain districts which they otherwise could not reach. As a matter of fact, the British Columbia Electric Railway is in effect an embryo terminal switching company, and as such its duties are certain to grow more heavy and exacting.

INDUSTRIES ARE AT A DISADVANTAGE BY REASON OF UNSYSTEMATIC SWITCHING ARRANGEMENTS AND EXCESSIVE INTRA-TERMINAL SWITCHING CHARGES.

The ideal conditions under which industries can survive and flourish are those under which they are assured of efficient railroad service on equal terms at reasonable cost, regardless of their location within the district. In the Harbour Commission Terminal Railway and the British Columbia Electric Railway, Vancouver possesses the means by which this may be accomplished. From many points of view, but especially in regard to industrial service, it would be perhaps good policy to combine these two companies into one terminal association.

The British Columbia Electric Railway is exceedingly well qualified for handling industrial switching on account of the lack of fire risk, important in this locality, and of its flexibility and cheapness of operation. The combination of these two roads, together with a uniform scale of switching charges, will do much toward securing new industries for Vancouver. Above all, access to the harbour front should be on equal terms and with the maximum facility. A large part of Vancouver's future industry must look to the foreign markets for an outlet, until the local and domestic demands attain satisfactory proportions.

BETTER METHODS OF INTERCHANGING FREIGHT CARS AMONG THE SEVERAL ROADS ARE DESIRABLE.

Looking forward for a period of several decades, it may be anticipated that this transfer of cars from one road to others within Vancouver proper will assume much greater proportions and the current methods of handling the business will no longer answer.

As the British Columbia Electric and the Harbour Commission's Terminal Railroads will probably share more than the others in this intra-terminal business, special consideration must be given to providing the tracks and connections necessary to handle it. The proposed Glen Drive yard will be the focusing point for all railroads and is, therefore, especially well adapted for interchange purposes.

In order to further assist the British Columbia Electric Railway to classify cars originating in the False Creek district for delivery to other roads, a connection across the east end of the channel is proposed. Another connection is suggested in East Vancouver, where the British Columbia Electric's Westminster line passes over the Great Northern. From here the British Columbia Electric could either operate over the Great Northern tracks across Main Street, or construct another independent parallel line. This will give the British Columbia Electric a complete loop track free from interferences with traffic of the central business district. Again, it is but a short distance from the Great Northern-British Columbia Electric crossing in East Vancouver to the junction of the Fraser Valley line of the British Columbia Electric (Commercial Junction), so that traffic from this very important branch could also be brought in via the proposed Main Street route.

Interchange yards may be established either in the False Creek area, or a portion of the Great Northern or Canadian National property be set aside for this purpose. If, however, the suggested Glen Drive yards are built, all British Columbia Electric cars for other lines could enter it directly and be distributed from there.

By a suitable redistribution of the tracks in centre yard of the Canadian Pacific Railway, this yard could be used to advantage by both roads in handling cars from that district and assembling them for distribution for other lines.

In the handling of transcontinental freight, especially that destined for port movement, it appears that eventually there will be need for an additional clearing yard, to which all railroads will have access. Such a yard may be eastward of Port Moody or perhaps consist of the enlarged Coquitlam Yard of the C.P.R., which would be reached by the Canadian Pacific Railway tracks from New Westminster along Coquitlam River. This track would preferably be jointly operated and maintained by the several railways.

INDUSTRIAL DEVELOPMENT SHOULD PROCEED IN AN ORDERLY AND SYSTEMATIC MANNER.

The adoption of a Zoning By-Law has allocated logical and sufficient areas for industrial purposes both on the waterfront and in selected locations within the city. In apportioning these areas, careful consideration has been given to future requirements, and their establishment will encourage the industrial growth of Vancouver upon ordered lines, as well as affording a very great simplification of the problems involved in affording these areas adequate rail and harbour facilities.

Zoning will encourage and facilitate the location of new industry. Experience in other zoned cities has proven this beyond doubt.

A NUMBER OF RAILROAD GRADE CROSSINGS SHOULD RECEIVE EARLY ATTENTION.

Under present operating conditions the Carrall Street track is an essential link of the Canadian Pacific Railway's terminal trackage. It connects the Burrard waterfront yards with Centre Yard on False Creek, and it is the sole means of communication between the main line track and passenger station and freight stations, team tracks, car and locomotive repair shops, engine house, storage yards and the numerous industries along the north shore of False Creek. By it the Canadian Pacific and the British Columbia Electric Railways maintain an interchange contact. The passenger station operation is absolutely dependent upon the Carrall Street track. The track on Carrall Street penetrates a highly developed commercial district practically for the entire length, and it is but a single track line on a right-of-way not over 50 feet wide. Fortunately it serves no important industries and only one or two establishments would be inconvenienced by the loss of this track. The track crosses at grade several important streets, the principal ones of which are Hastings Street and Cordova, the former probably the most intensively used street in Vancouver. Other streets crossed are Alexander, Powell and Pender Streets.

The most satisfactory method of eliminating this series of grade crossings is to remove the necessity for the track, which can only be through a quite elaborate revision of the Canadian Pacific Railway's terminal facilities and operating methods. If the use of the track could be reduced merely to that required for freight house operation, interchange and service to industries, it might even remain in place.

In the event that the railroad elects to retain the connection and eliminate the grade crossing features, there are two schemes which appear feasible; one by the use of a tunnel approximately under Dunsmuir Street for its full length and the other involving the depression of the present track in Carrall Street with practically no change in alignment.



C.P.R. Carrall Street Level Crossing.

The elimination of waterfront railroad grade crossings requires boldness and a somewhat spectacular method. An example of the type of the construction that must necessarily prevail along the waterfront is observed in the recently completed elevated roadway built by the Canadian Pacific Railway primarily to serve their new Pier B-C and adjacent piers A and D. This elevated roadway provides a circulatory vehicular movement from Burrard Street to Granville Street and the ramps enable trucks and teams to reach ground level with no interference from or to railroad operations.

A treatment somewhat similar to that started by the Canadian Pacific Railroad is adaptable to that section of the south shore extending from Granville Street to the Sugar Refinery (Plate 32, page 146). Ramp connections may be made to this elevated structure from Granville Street, Cambie Street, Gore Avenue and Dunlevy Street, Princess Street and Heatley Avenue.

Easterly from the Sugar Refinery a low level waterfront roadway should be constructed north of the Canadian Pacific Railway Company and Harbour Commissioners' tracks, extending easterly to connect with the waterfront roadway reserve now set aside by the Harbour Commissioners from the foot of Trinity Street to the Second Narrows and beyond. The Vancouver Harbour Commissioners are to be commended for their foresight in reserving the necessary areas for the waterfront roadway. A plan of similar nature should be followed wherever possible throughout the entire industrial portion of the harbour.

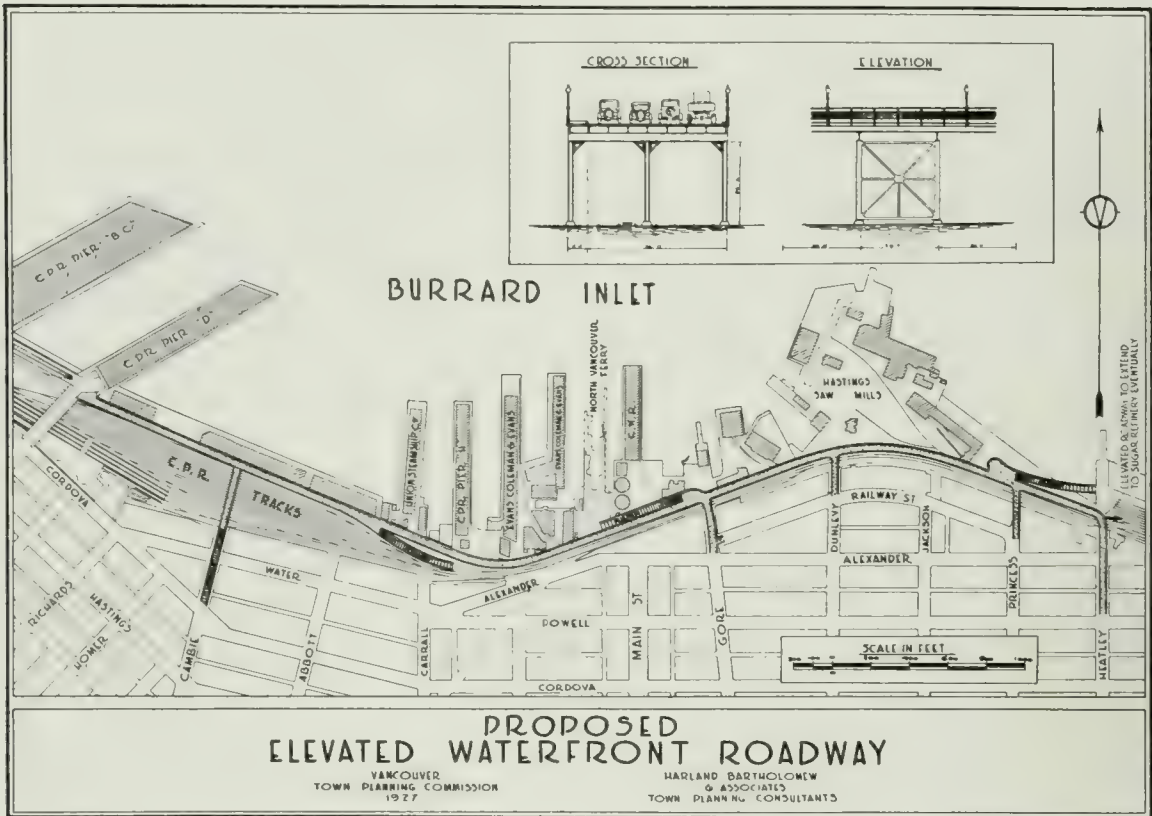


Plate 32

The Great Northern crossing at Powell Street is objectionable and a cause of delays to street traffic. This defect may be remedied by a grade separation with Powell Street, already referred to.

The Great Northern Railway crossing at the foot of Main Street hill is potentially dangerous and a grade separation should be provided.

UNION PASSENGER TERMINALS.

For the present traffic, the existing Canadian Pacific Railway passenger station is adequate. However, there is little room for expansion, and the station and its trackage occupy ground space that will later be needed for harbour development. It is difficult to take care of some of the longer trains now, and the reverse movements involved in making up passenger trains from Centre Yard impose bad operating conditions and contribute their share to the grade crossing nuisance.

The Canadian Pacific Railway station is, however, undeniably well located to serve the public. It brings them immediately to the heart of things. It is, to the railroad, an advantageous location for competitive passenger traffic, and its closeness to the steamer piers permits of a quick transfer from one to the other.

The implied desirability of seeking another location for this passenger station may seem to be and is a somewhat radical innovation. The railroad cannot be expected to relinquish such a favorable location. Yet in the scheme of things, looking forward to the time when the Burrard waterfront is approaching its maximum degree of concentrated

activity, it is conceivable that the railroad itself may see the desirability of relocation in order to avoid the inconvenience and delays caused by freight switching movements and the awkward operation of getting to its terminals on False Creek.

Much should, and must, be sacrificed toward preserving the waterfront for purely shipping business, and this suggestion of the removal of the Canadian Pacific Railway passenger station is in line with that thought.

The proposal very naturally suggests itself of grouping the Canadian Pacific Railway passenger facilities with those of the Great Northern and the Canadian National Railways on Main Street. This will give Vancouver a Union Station which, under the circumstances, would be a decided advantage. This being a terminating point in every sense of the word, and in a city of not too great population, a Union Station for all roads possesses all of the good and none of the bad features usually associated with the arrangement.

The Great Northern and Canadian National Railway stations are only four minutes by taxi from the heart of the business district, less than a mile. Much room is available for expansion, and the extensive plaza already provided guarantees for all time pleasing surroundings.

The Canadian Pacific Railway could enter the Main Street location by direct movement from their main line, over tracks in the valley between Campbell Avenue and Glen Drive. Thus the heavily congested trackage along the waterfront from Hastings Mills westward could be avoided and traffic over grade crossings within the city further reduced.

FALSE CREEK.

THE FALSE CREEK INDUSTRIAL DISTRICT HAS BEEN PERMITTED TO BECOME AN EYE-SORE AND A MENACE TO HEALTH. ITS REGENERATION IS ESSENTIAL TO NORMAL CIVIC DEVELOPMENT.

The investigation establishes the fact that the False Creek channel is too valuable an asset to the city to consider its complete filling and obliteration. Rather, it should be encouraged as an industrial entity of extreme usefulness to Vancouver. Theoretically and practically it contributes to an ideal situation in that it provides a harbour for industrial activities allied to shipping interests, yet permits of a desirable segregation from the purely commercial water-borne traffic of Burrard Inlet. In other words, Vancouver is fortunate in having both a commercial and an industrial harbour.



Sawmills on False Creek.

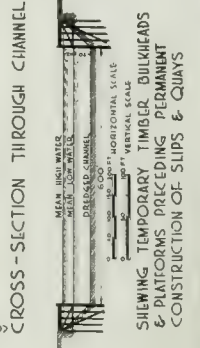
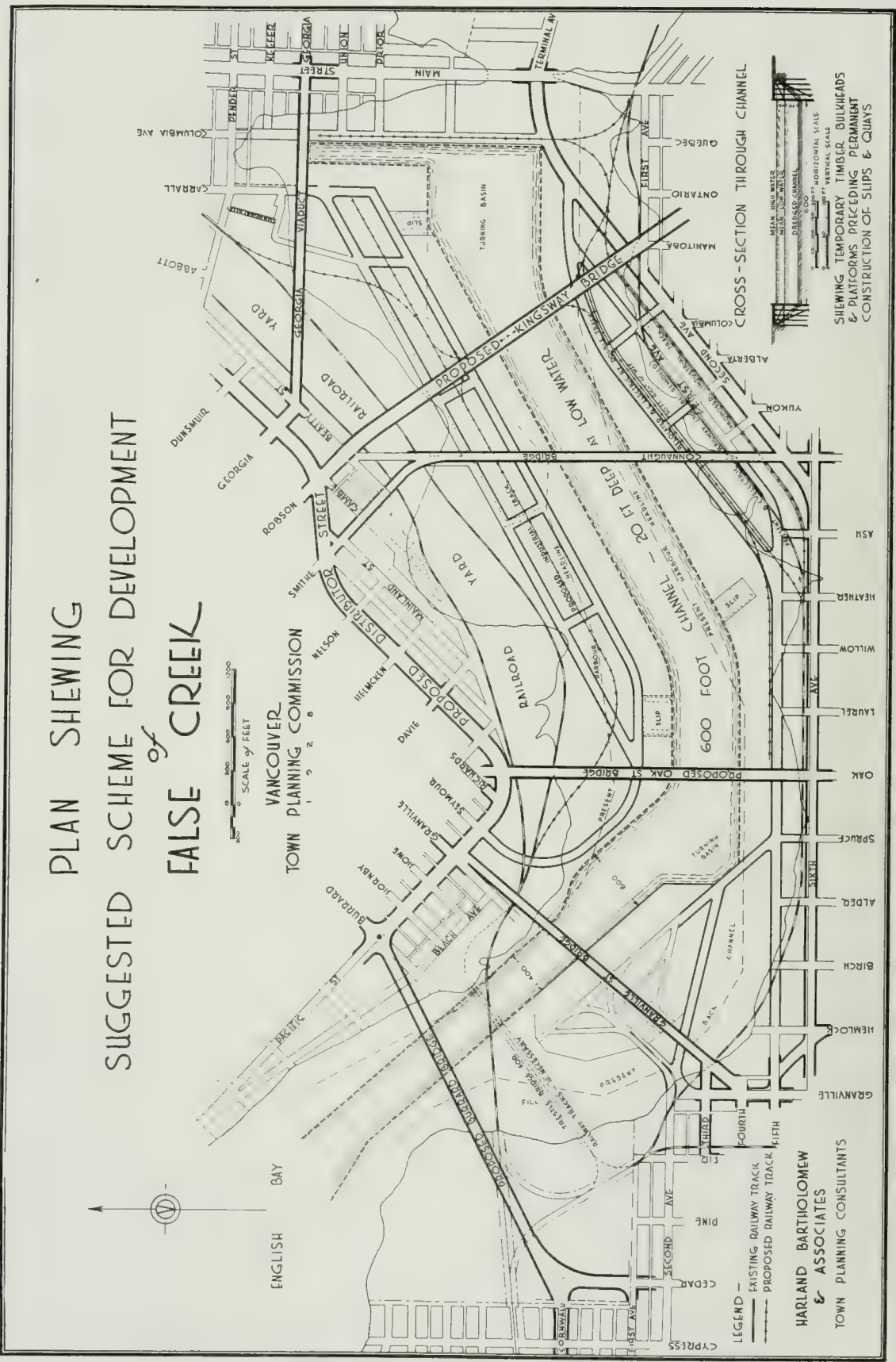
Emphasis is made of the importance of not only retaining the present industries along the channel, but of encouraging others to locate there. It should not be overlooked that should all of the mills be moved now to the Fraser River, as has been suggested, the effect would be far reaching and fairly detrimental to Vancouver. For it would not only remove capital itself, but the buying power of many families. Not only the mills would be affected, but many subsidiary enterprises whose business depends upon the proximity of the mills. There are no substitute industries in the offing to take their place.

PLAN SHEWING SUGGESTED SCHEME FOR DEVELOPMENT of FALSE CREEK



SCALE OF FEET
0 100 200 300 400 500 600 700 800 900 1000

VANCOUVER
TOWN PLANNING COMMISSION



CROSS-SECTION THROUGH CHANNEL

LEGEND -
 --- EXISTING RAILWAY TRACK
 - - - PROPOSED RAILWAY TRACK
 HARLAND BARTHOLOMEW & ASSOCIATES
 TOWN PLANNING CONSULTANTS

Looking forward, however, it is entirely conceivable that the mills and some other industries of False Creek will be forced to move by reason of increasing land values. This is a normal process and usually insures the replacement of the migrating concerns by others of higher class.

In the light of the foregoing conclusions, the obvious next step is to so direct the use of False Creek channel that it may reach its maximum efficiency with the least inconvenience to other elements of community growth.

Of primary importance is the maintaining of this channel in a sanitary condition. A fairly careful inspection of existing industries lining the channel indicates that there are no industries the waste products of which are subject to bacterial action or offensive putrefaction. As maximum concentration is approached and the working population becomes densely settled, adequate sanitary sewers must be provided.

Under no circumstances should any sanitary sewer be permitted to empty raw sewage into False Creek. It has no current and its only method of cleansing itself is by the rise and fall of the tide. Long, narrow arms projecting from the main channel, such as that from the turning basin along Main Street to just north of Georgia Street, should be given special attention and subjected to greater restrictions.

More careful supervision of the manner of filling and the kind of filling material used is essential.

It is recommended that the channel be dredged to a minimum depth of 20 feet at low tide and that permanent quay wall and wharf construction be adopted as future policy. A more systematic location of industries, streets and railroad tracks will effect a more sightly appearance and materially improve the efficiency and value of the district.

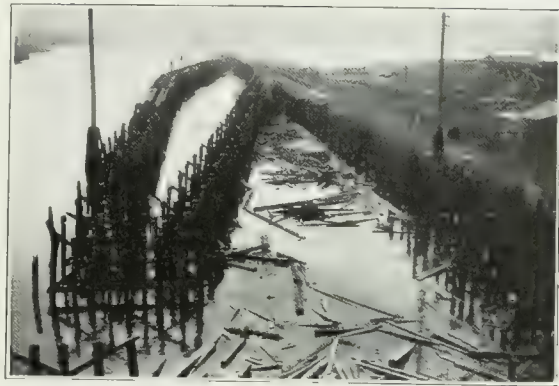
It is recommended that the channel south of Granville Island, called the back channel, be filled in and joined to the mainland, in order that better access may be obtained to the island and additional lots created.

Plate 33 is submitted as a plan eventually practicable, whereby the entire False Creek area may be reclaimed and used for purposes more appropriate to a city of a million population. The theory of the plan is, briefly, to create greater land values by increasing the desirability of the lands for high-class industries.

The Provincial Government has made a survey of the whole False Creek area and a sixty-foot road has been dedicated south of the railroad yard on the north shore, shown by dotted line. This road has two connections to the city's street system, at Smithe and Carrall Streets.

The design is made with the object in view of retaining as much land as possible on the north side of the channel in close proximity to the city's business district.

At the entrance to False Creek the channel is narrowed to four hundred feet. This is for a twofold reason—in order not to interfere in any way with those industries which



*False Creek.
An Example of Conditions in This Area Which Require
Cleaning Up.*

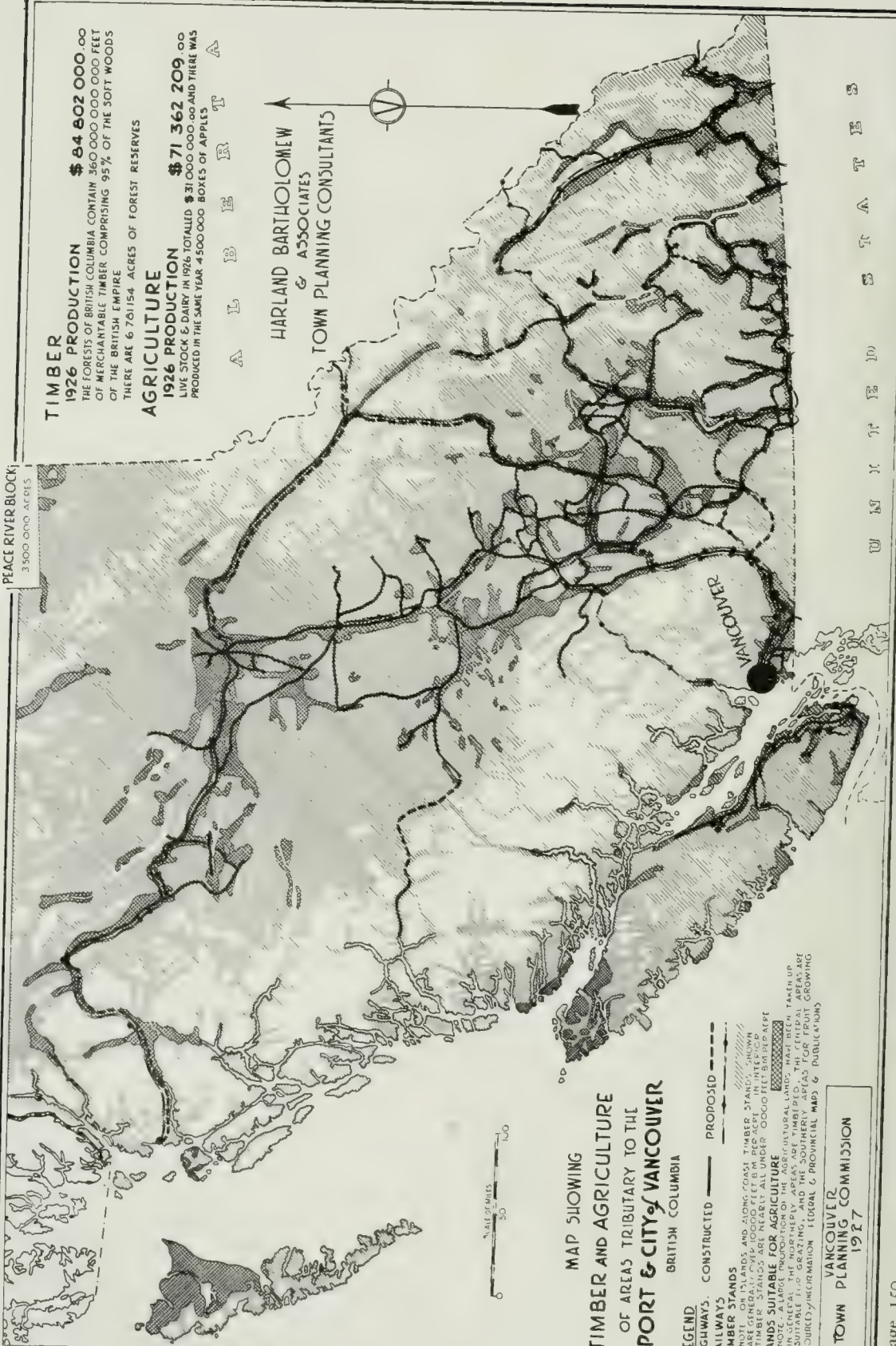
PEACE RIVER BLOCK
3500 000 ACRES

TIMBER
1926 PRODUCTION \$ 84 802 000.00
THE FORESTS OF BRITISH COLUMBIA CONTAIN 360 000 000 000 FEET OF MERCHANTABLE TIMBER COMPRISING 95% OF THE SOFT WOODS OF THE BRITISH EMPIRE
THERE ARE 6 701 154 ACRES OF FOREST RESERVES

AGRICULTURE
1926 PRODUCTION \$ 71 362 209.00
LIVE STOCK & DAIRY IN 1926 TOTALLED \$ 31 000 000.00 AND THERE WAS PRODUCED IN THE SAME YEAR 4 500 000 BOXES OF APPLES

HARLAND BARTHOLOMEW
& ASSOCIATES
TOWN PLANNING CONSULTANTS

A L B E R T A



MAP SHOWING
TIMBER AND AGRICULTURE
OF AREAS TRIBUTARY TO THE
PORT & CITY OF VANCOUVER
BRITISH COLUMBIA

LEGEND
HIGHWAYS, CONSTRUCTED ——— PROPOSED - - -
RAILWAYS
TIMBER STANDS
NOTE: ON ISLANDS AND ALONG COAST, TIMBER STANDS SHOWN ARE GENERALLY OVER 10000 FEET BM PER ACRE
TIMBER STANDS ARE NEARLY ALL UNDER 0000 FEET BM PER ACRE
LANDS SUITABLE FOR AGRICULTURE
NOTE: AGRICULTURAL LANDS, HAVE BEEN TAKEN UP IN GENERAL, THE NORTHERLY AREA OF THE COAST ARE SUITABLE FOR GRAZING, AND THE SOUTHERLY AREAS ARE SUITABLE FOR CROPPING
SOURCE: INFORMATION FEDERAL & PROVINCIAL MAPS & PUBLICATIONS

VANCOUVER
TOWN PLANNING COMMISSION
1927

W M N T E D S T A T E S

are already firmly established on Granville Island, and to discourage heavy waterfront industrial development immediately below the proposed Civic Centre. This channel is straight and will not cause any obstruction to the passage of water traffic if used primarily as a fairway for ships.

It is recommended that First Avenue be improved and extended to the east and west and form a continuation of Fifth Avenue. The British Columbia Electric Railway track along First Avenue should be abandoned and relocated as a double track line about two hundred and fifty feet north of its present location; provision, however, should be made for a right-of-way wide enough to accommodate three tracks here if future requirements demand. An eighty-foot street immediately north of this right-of-way is recommended, connecting with the proposed Second Avenue extension just west of Columbia Street and with the suggested Fifth Avenue-First Avenue extension opposite Heather Street. This street will provide not only trucking access to the industries located along the waterfront, but will also provide street frontage for these industries, if desired.

This proposed arrangement will permit of intensive industrial development, with railway service, along First Avenue, Second Avenue and Fifth Avenue. An industrial track placed in the lane between First Avenue and Second Avenue can be used to serve the industries fronting on these streets. If necessary, this track could be depressed at Cambie Street to obtain clearance under the Connaught Bridge ramp. The south track of the suggested relocated double track British Columbia Electric Railway can be used to serve those industries fronting on the north side of First Avenue. The waterfront industries can be served by spurs off the north track of the British Columbia Electric Railway, which can be operated as a combined passenger and freight track until such time as the traffic demands would necessitate segregation of this traffic, when a third track could be installed for either freight or passenger traffic use exclusively.

The scheme of development is not intended for the types of industries which would require depths of, say, six hundred to eight hundred feet for the waterfront property, as this scheme would be more or less undesirable here if based upon water transportation facilities. However, should such requirements become necessary, the waterfront street could be abandoned and the British Columbia Electric Railway could be double-tracked in approximately its present location, thus providing depths of waterfront property along the south shore of about four hundred to eight hundred feet.

The slips indicated on the plan are diagrammatic only and can be established definitely when the scheme is being developed.

This proposed development, when carried out, will necessitate the renaming of some of the streets.

Care should be taken to so control the use of this area that no industrial nuisance will be permitted to locate within it. This is extremely important on account of the close proximity of the commercial and residential sections of the city. Adequate zoning restrictions will assist in a satisfactory solution of this difficulty.

It is recommended that the easterly end of the channel be filled eventually so as to make solid land from Main Street to a line about four hundred feet east of the Great Northern Railway's abandoned trestle, and that track connection be made so as to provide the British Columbia Electric Railway with access to the north shore of False Creek, independently of the Kitsilano Bridge.

MINERALS

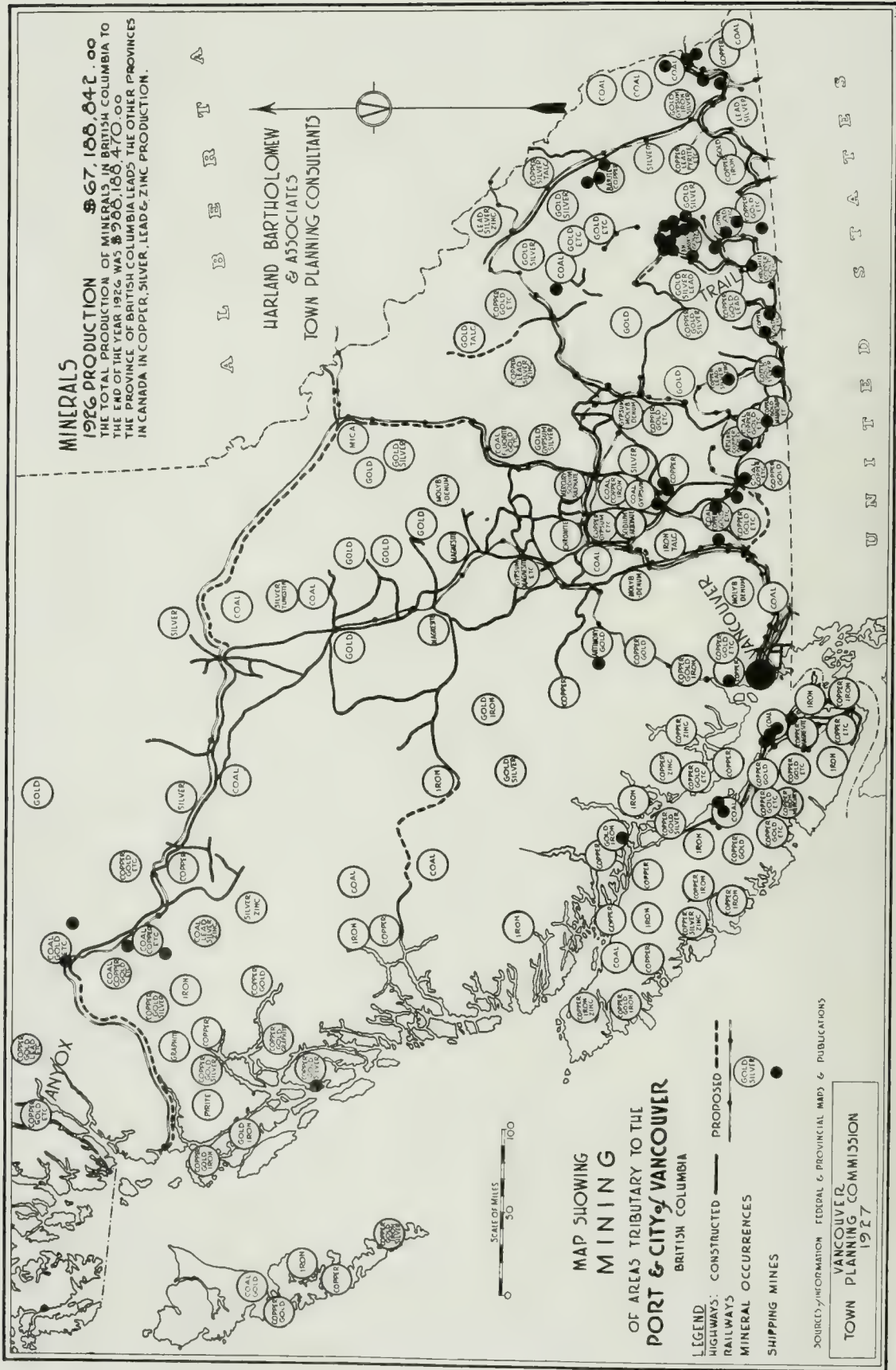
1926 PRODUCTION OF MINERALS IN BRITISH COLUMBIA TO THE END OF THE YEAR 1926 WAS \$98,188,470.00
 THE PROVINCE OF BRITISH COLUMBIA LEADS THE OTHER PROVINCES IN CANADA IN COPPER, SILVER, LEAD & ZINC PRODUCTION.

\$67,188,842.00

A L B E R T A

HARLAND BARTHOLOMEW & ASSOCIATES
 TOWN PLANNING CONSULTANTS

U N I T E D S T A T E S



MAP SHOWING MINING OF AREAS TRIBUTARY TO THE PORT & CITY OF VANCOUVER BRITISH COLUMBIA

- LEGEND:
 HIGHWAYS: CONSTRUCTED ——— PROPOSED - - - - -
 RAILWAYS ———
 MINERAL OCCURRENCES ○
 SHIPPING MINES ●

SOURCE: INFORMATION FEDERAL & PROVINCIAL MAPS & PUBLICATIONS

VANCOUVER TOWN PLANNING COMMISSION 1927

The advantage of the above proposal is two-fold. It provides about 25 acres of first-class industrial property and affords a greater flexibility in switching cars into and out of the district. It will facilitate interchange among the five railways.

A rail connection between the south and north shores of False Creek at the eastern end will be of great value. Were it not for the channel to the gas plant and the intensely developed area near the Georgia Viaduct, an extension to the north and west of the railroad on the proposed street west of Main Street could be made and would be ideal. However, rail connection could be provided by means of a lower deck on the proposed Kingsway Bridge as an alternative.

NATURAL RESOURCES AND INDUSTRIES.

A CONCERTED AND SUSTAINED EFFORT SHOULD BE EXERTED TO OBTAIN FOR VANCOUVER NUMEROUS AND APPROPRIATE INDUSTRIES.

With the gradual building up of the district tributary to Vancouver, the opening of the Peace River territory and the increasing business of the port, Vancouver will need practically every sort of industry capable of supplying the necessities and luxuries of life. No raw material of any sort should be permitted to pass eastward through the port without a careful study being made as to whether it could not be profitably worked up into the finished product here. Again, outgoing shipments of manufactured articles, food products, etc., should be classified, the market studied and the possibility of their manufacture considered.

The advantageous location of Vancouver for distributing supplies of all sorts should be taken advantage of to the fullest.

Probably the most important influence in attracting industry is the ability and willingness of the community to supply land and buildings at a not exorbitant cost. Many a prospective manufacturer has been discouraged from locating in some cities by the unsympathetic attitude of those who own or control the available land.

Attention has been called to the need of better terminal switching methods and rates. This is of deep concern to the manufacturer.

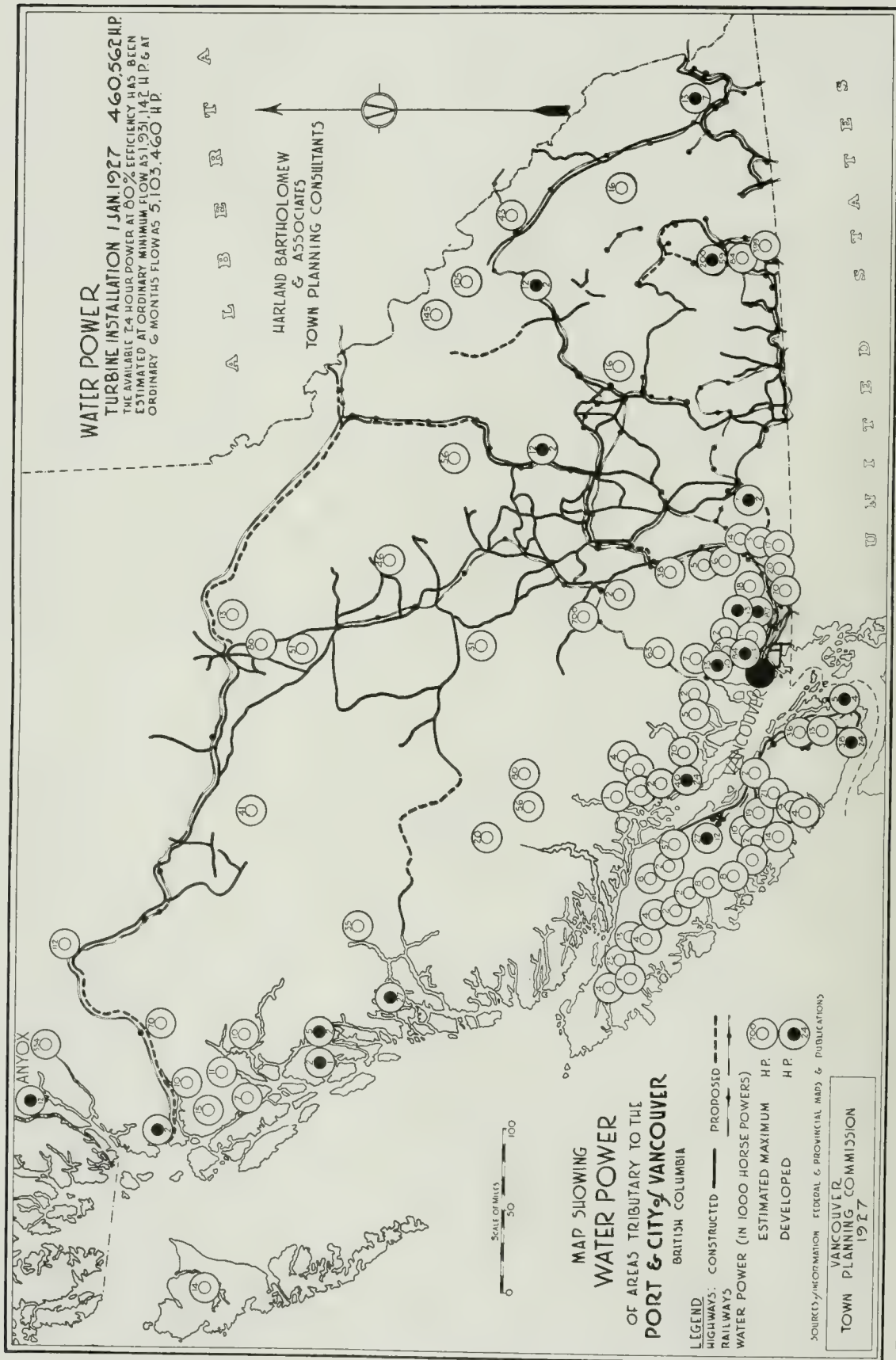
A diversity of industry should be sought rather than a single predominating type, in order to insure a more stable labor supply and business balance.

Industrial and trade schools are to be encouraged, as specialized labor is of high value and difficult to obtain.

No small enterprise, however insignificant, should be ignored and neglected. Few people have the tenacity and genius of Mr. Ford, but their basic ideas may be as sound and, under proper tutelage, as susceptible to successful development.

While a seaport, as a rule, can have a sphere of influence on land represented diagrammatically by a semi-circle, the international boundary in the case of Vancouver to a large extent prescribes the diagrammatic figure to less than a semi-circle, though greater than a quadrant. The effect of the mountains is, however, to enlarge this sphere: to push back the hinterland. In other words, it makes the development of the Province of Alberta a considerable factor in the development of Vancouver, not only as a port, but as an industrial and commercial city.

The accompanying plate, and the two that follow, have been made to indicate the development in the southern part of the Province of British Columbia that now and in the future is bound to have an effect on the City of Vancouver.



WATER POWER

TURBINE INSTALLATION 1 JAN. 1927 460,562 HP.
 THE AVAILABLE 24 HOUR POWER AT 60% EFFICIENCY HAS BEEN
 ESTIMATED AT ORDINARY MINIMUM FLOW AS 1,951,142 HP. & AT
 ORDINARY 6 MONTHS FLOWS 5,103,460 HP.

A L B E R T A

HARLAND BARTHOLOMEW
 & ASSOCIATES
 TOWN PLANNING CONSULTANTS

W N I T E D S T A T E S

**MAP SHOWING
 WATER POWER
 OF AREAS TRIBUTARY TO THE
 PORT & CITY OF VANCOUVER**
 BRITISH COLUMBIA

- LEGEND:**
 HIGHWAYS: CONSTRUCTED ——— PROPOSED - - - -
 RAILWAYS ———
 WATER POWER (IN 1000 HORSE POWERS)
 ESTIMATED MAXIMUM HP. ○
 DEVELOPED HP. ●

SOURCES OF INFORMATION: FEDERAL & PROVINCIAL MAPS & PUBLICATIONS

VANCOUVER
 TOWN PLANNING COMMISSION
 1927

The situation in regard to timber and agriculture is represented both graphically and in words on the accompanying plate. This statement might, however, be emphasized that "the forests of British Columbia contain 95% of the soft woods of the British Empire."

While the area of land suitable for agriculture is but a small percentage of the area of the province, yet the figures in regard to agricultural production are by no means small. In general the northerly areas suitable for agriculture are more or less timbered, while the central areas are naturally suitable for grazing. The southerly areas produce those fruits which so frequently win prizes at exhibitions, both in this and the Old Country.

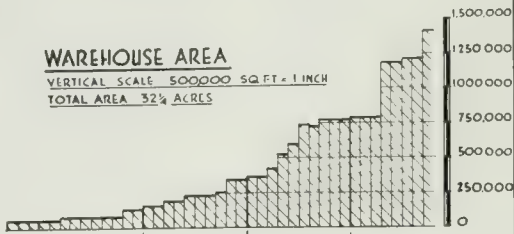
It may be stated that it is only recently that Canada has become actually aware of the great possibilities in her mineral wealth. British Columbia does not stand alone in occupying a commanding position in respect to mineral development, yet the 1926 records showed that the Province of British Columbia led all the other provinces in Canada in copper, silver, lead and zinc production.

The accompanying plate indicates the relationship of mineral occurrences and shipping mines to the railways and highways. It should be pointed out that the location of these mineral occurrences are comparatively approximate, but are taken from the most reliable sources. It does not mean, however, that minerals will not be found in many other localities.

PROGRESSIVE DEVELOPMENT OF WATER-FRONT SOUTH SHORE OF BURRARD INLET

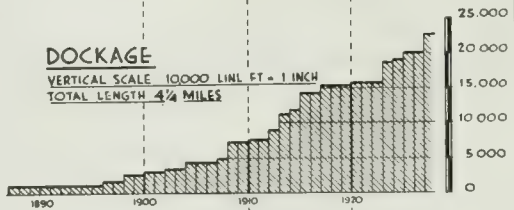
WAREHOUSE AREA

VERTICAL SCALE 500,000 SQ. FT. = 1 INCH
TOTAL AREA 32 1/4 ACRES



DOCKAGE

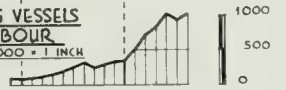
VERTICAL SCALE 10,000 LIN. FT. = 1 INCH
TOTAL LENGTH 4 1/4 MILES



OCEAN-GOING VESSELS ENTERED HARBOUR

VERTICAL SCALE 1000 = 1 INCH

Panama Canal opened 1914



COMMODITIES SHIPPED OVERSEAS THROUGH THE PORT OF VANCOUVER

LUMBER

Millions of Feet B.M.

LOGS

Millions of Feet B.M.

SHINGLES

Millions of Boards

GRAIN

Millions of Bushels

FLOUR

Millions of Barrels

APPLES

Boxes

CANNED SALMON

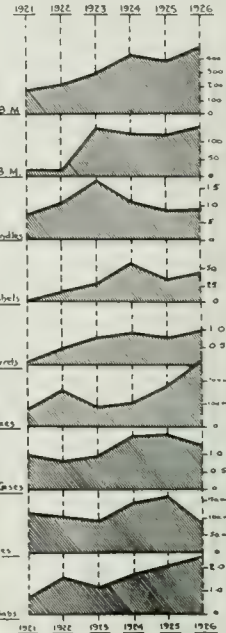
Millions of Cases

FISH

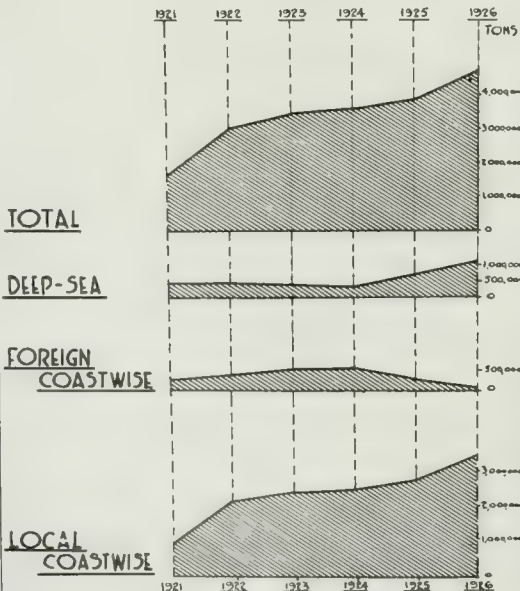
Packages

LEAD & SPECTER

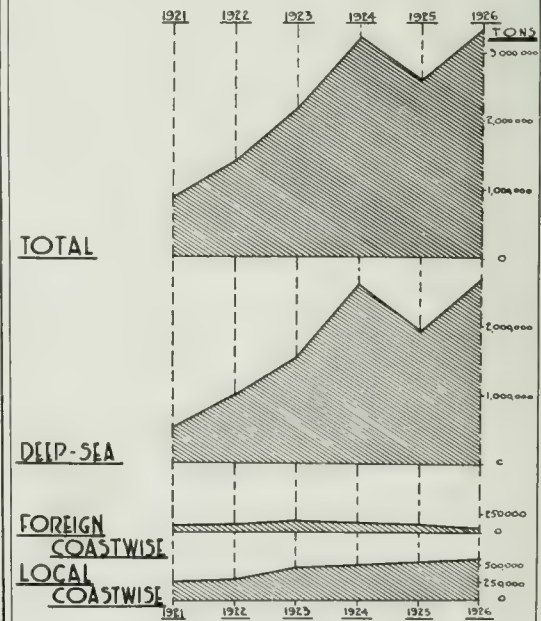
Millions of Stubs



PORT OF VANCOUVER WATER-BORNE IMPORTS



PORT OF VANCOUVER WATER-BORNE EXPORTS



When the history of British Columbia is written in some years to come, it will probably be found that there are many localities in which water is available that have not been indicated on this map.

The accompanying plate does indicate, however, that of the known available water power, but little as yet is developed and that there is undoubtedly opportunity by water power development to take care of industrial and other needs for years to come.

Judicious and well-directed advertising has produced good results in many communities. The encouragement of tourists is one form of advertising that not only pays an immediate profit, but often produces lasting results, for the tourist usually has money seeking investment.

Accompanying this report are maps showing the natural resources of the territory tributary to Vancouver. If these plates, Nos. 34, 35 and 36, could be reproduced and distributed broadcast, they would tell an interesting story to the investing public.

HARBOUR SECTION

VANCOUVER'S HARBOUR.

The harbour represents Vancouver's greatest single asset and is an essential link in the railroad and shipping lines of Canada. It may be regarded as one of the most valuable of national resources, of vital importance alike in peace and war. Needless to say, every foot of its shore line should be carefully conserved for harbour purposes and its use be restricted to those industries to which water frontage is essential.

The control of the harbour lies with the Dominion Government, which is represented by the Vancouver Harbour Commissioners. Under this arrangement, with whole-hearted public support, the harbour will fulfil its destiny as a great world port and a prime factor in the industrial and business life of Greater Vancouver.

PROGRESSIVE GROWTH OF THE PORT.

That the business of the port is on a substantial basis and in a healthy condition is evident from the steady increase in its volume of trade during the past decade.

As indicated in the diagram (Plate 37, page 156) the total exports have risen from about 1,000,000 tons in 1921 to about 3,500,000 tons in 1926, or over three times in five years. Most of this is due to deep sea trade.

The imports (Plate 37, page 156) have expanded from about 2,350,000 tons in 1921 to 4,700,000 tons in 1926. This great increase is largely due to local coastwise traffic.

EFFECT OF PANAMA CANAL.

That the advent of the Panama Canal has had a stimulating effect upon the growth of the Port of Vancouver is apparent from the statistics showing the proportion of export freight transported via that route. For the period from 1921 to 1926 inclusive, it appears that the following percentages were shipped through the Canal in proportion to the total amount by both canal and ocean.

Lumber	33%
Shingles.....	98%
Canned Salmon.....	72%
Fish, Frozen, Salted, Cured.....	3%
Flour	14%
Wheat	71%
Lead and Spelter.....	45%
Apples.....	69%

The detail statement from which the foregoing figures were derived also indicates that the proportion shipped by the Panama Canal has been steadily increasing.

FOREIGN TRADE RELATIONS WITH VANCOUVER.

One of the distinct advantages of the Port of Vancouver district is that it provides a direct contact with so many foreign countries. Since the year 1909 the number of vessels of foreign registry that enter the port has increased from seventy-one to over a thousand, the actual figures being 1,029 in 1926. A list of these follows for the year 1926:

British	419
U.S.A.....	254
Japan	158
Norway.....	64
Denmark.....	24
France	23
Holland.....	21
Sweden	20
Germany	20
Italy	19
Belgium	5

In addition to the above, vessels from Russia, Mexico, Peru, Chili, Nicaragua, Panama and Greece make occasional trips to Vancouver.

PASSENGER TRAFFIC THROUGH PORT.

During 1924 there were 814,878 passengers landed and shipped by boat, and in 1926 approximately 1,022,000. This traffic is important to Vancouver, both from a financial standpoint and from its advertising value. Every effort should be made to acquaint all travellers with the advantages of this district. Few cities have so great an opportunity of securing a personal contact with citizens from every corner of the world.

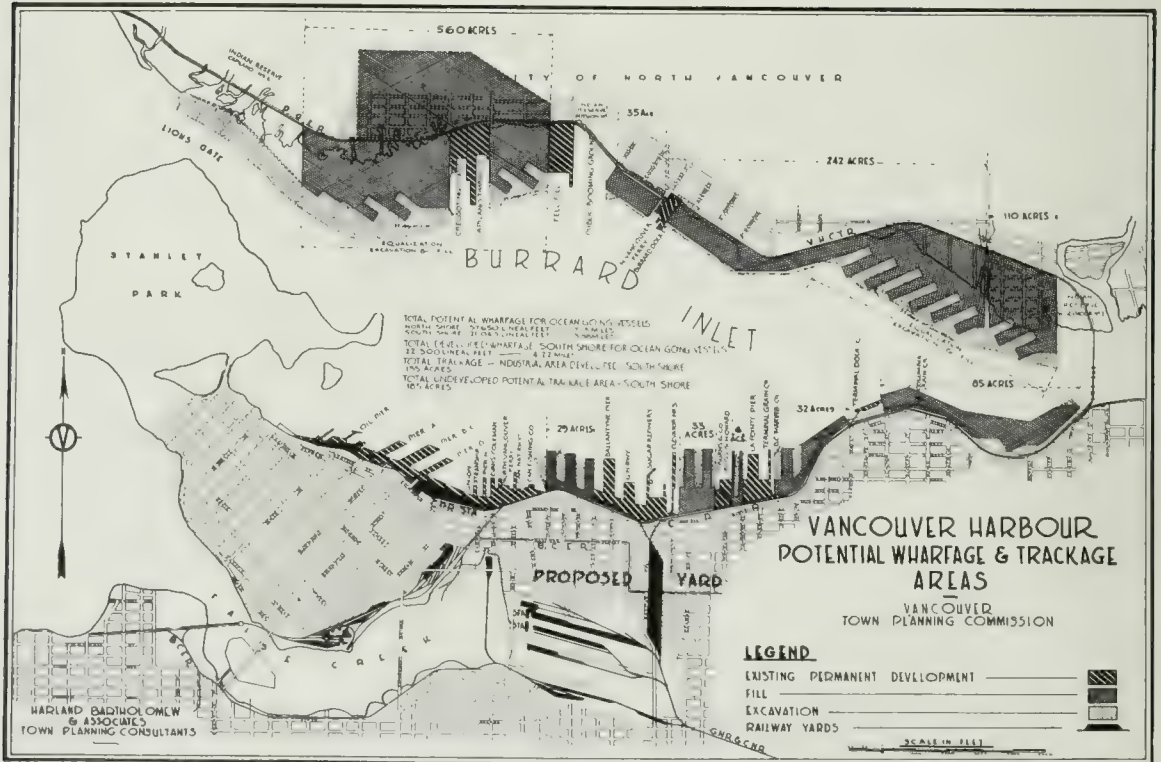
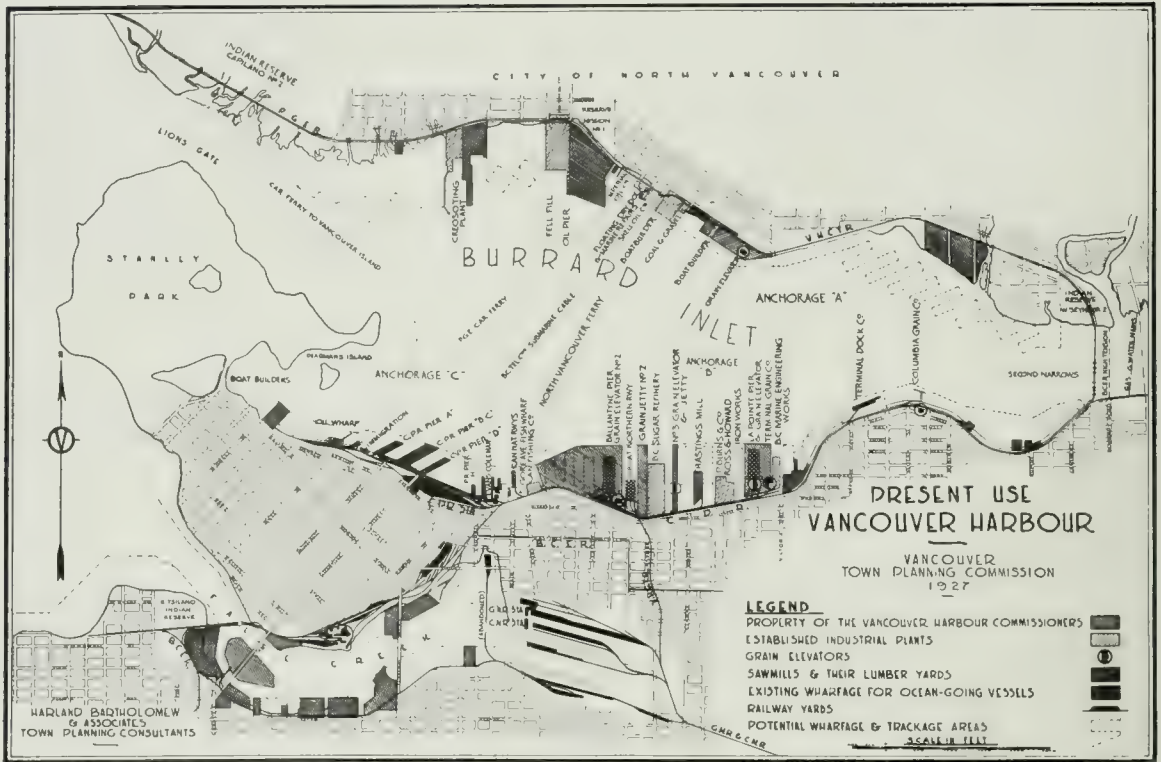
DIVERSITY OF CARGO.

A stabilizing factor to port business, and also a beneficial influence upon the commercial life of the city, is the diversity of cargo handled both in and out of this port. Plate 35, page 152, shows the principal export items and their amounts, while the following table is illustrative of the more important incoming shipments. It is seen that Vancouver is not a single cargo port, although by its bulk and value grain may be considered the leading cargo.

PORT OF VANCOUVER

TABLE SHOWING SUNDRY IMPORTS FOR THE YEAR 1924

	<i>Water-Borne</i>	<i>Tons</i>	<i>Value</i>
Chemicals		3,588	276,732
Dry Goods, Carpets, etc.....		7,723	4,302,636
Earthenware		2,108	256,434
Fruit, Fresh and Dried.....		16,323	1,687,138
Gunney Sacks		9,599	1,462,359
Hemp.....		3,776	618,921
Meats, Fresh and Cured.....		4,300	181,576
Oils, Crude Fuel, Distillate, Gasoline.....		585,505	6,032,200
Shoes.....		229	127,592
Silk.....		8,205	83,024,526
Soap.....		1,549	231,610
Steel, Iron and Machinery.....		36,446	2,840,312
Sugar.....		84,008	8,006,921
Tea.....		12,462	4,188,925
Wool.....		2,614	3,106,471



RAILROADS AND THE HARBOUR.

(Plate 31, page 142).

The railroads have been here, as elsewhere, foremost in inaugurating harbour improvements, and their investment in Vancouver in piers and warehouses amounts to many millions of dollars. The most recently built pier of the Canadian Pacific Railway cost in excess of \$5,000,000. The city must continue to look to the railroads for much of the capital necessary to fully develop the harbour.

However, railroad business is highly competitive, and they therefore usually seek exclusive privileges. While this attitude tends to produce the highest state of efficiency in individual operations, it is not, in the broad sense, wholly constructive in effect, nor is it likely to result in the maximum benefit to the greatest number of people. If unregulated, railroad control of a harbour may stifle or at least retard its growth. Fortunately, through the timely organization of the Harbour Commission, Vancouver is in no great danger. But there is still much to accomplish in the way of giving equal access to all carriers to every portion of the waterfront. Whether this is effected by an adjustment of switching charges or the joint use of all trackage on the waterfront is not very material, but it is believed that the most satisfactory method of providing equal privileges to all would be by extending the scope of the Harbour Commission's Terminal Railway and giving it a practical monopoly of switching operations within the limits of Vancouver. As suggested in the railroad report, it would be of advantage to combine the Terminal Railway with the British Columbia Electric Railway, as the latter is peculiarly fitted for serving certain sections of the city.

In the development of the North Shore now in progress by the Harbour Commission, the opportunity is given to prove the soundness of the policy above outlined, as the Harbour Commission's Terminal Railway alone is in a position to serve this territory.

SUGGESTED DEVELOPMENT OF VANCOUVER HARBOUR.

The present extent of use of Vancouver Harbour and a plan for developing for harbour and industrial purposes the areas remaining unused are illustrated by Plate 38, page 160.

The following tables show in detail the frontage used by the various classes of owners. It is interesting to note the relatively small percentage of undeveloped waterfrontage on the south shore.

PRESENT USE OF BURRARD INLET
SOUTH SHORE, YEAR 1927

Between Coal Harbour Causeway and Second Narrows.
Length of Waterfrontage, 30,500 feet = 5.8 Miles.

Canadian Pacific Railway Company.....	6,600 feet	22%
Vancouver Harbour Commission	3,750 feet	12%
Remaining Shipping Interests—		
Union Steamship Co.....	200 feet	
Evans, Coleman & Evans.....	400 feet	
North Vancouver Ferry.....	200 feet	
Canadian National Railway.....	300 feet	
Great Northern Railway.....	500 feet	
Terminal Dock Company.....	2,400 feet	
Columbia Elevator Co.....	400 feet	
	4,400 feet	14%
Industries—		
Coal Harbour.....	1,650 feet	
Canadian Fishing Co.....	700 feet	
Sugar Refinery.....	550 feet	
P. Burns Company.....	350 feet	
Ross & Howard.....	250 feet	
B.C. Marine Works.....	300 feet	
	3,800 feet	12%
Sawmills	3,250 feet	11%
Undeveloped Waterfront	8,700 feet	29%
	30,500 feet	100%
Total		

NORTH SHORE, YEAR 1927

Between First and Second Narrows.

Length of Waterfrontage, 29,700 Feet = 5.6 Miles.

Vancouver Harbour Commissioners—			
Public Booming Ground.....	1,100 feet		
Undeveloped Waterfront.....	4,500 feet		
		5,600 feet	19%
Sawmills.....		1,700 feet	6%
Industries—			
Creosoting Plant.....	500 feet		
Northern Construction.....	700 feet		
Burrard Dock Co.....	800 feet		
Boat Builders.....	400 feet		
		2,400 feet	8%
Undeveloped Waterfront.....		20,000 feet	67%
			67%
Totals.....		29,700 feet	100%

Since the above was compiled, a new grain elevator has been constructed and is in operation on the North Shore. It has 500,000 bushels capacity.

The Harbour Commission's Terminal Railroad has also been extended and is in service across the Second Narrows Bridge and along the North Shore.

COMPARISON OF PRESENT AND POTENTIAL WHARFAGE,
VANCOUVER HARBOUR

	<i>Present</i>	<i>Proposed</i>
Wharfage, North Shore.....	0.25 miles	7.13 miles
Wharfage, South Shore.....	4.22 miles	3.98 miles
Total.....	4.47 miles	11.11 miles

The figures serve to show the importance of conserving for strictly harbour purposes the entire waterfrontage of Burrard Inlet, for although much of the shore line east of the Second Narrows Bridge will eventually come in for harbour and industrial use, that portion between the First and Second Narrows will always constitute the true harbour.

The South Shore will develop more rapidly, especially for commercial vessels. The North Shore is more adaptable for handling cargo of great bulk, such as grain and lumber, requiring much storage space for cars. As indicated by the plates, the North Shore offers opportunity for the establishment of industries by reason of the large amount of flat areas immediately to the rear of the proposed harbour frontage.

In general, then, it is recommended that the South Shore be reserved for active marine commercial wharfage, including fish docks and general coastwise and high-class deep sea trade, and the North Shore for less active bulk cargo, shipyards, grain elevators and the like, including industries that may require wharfage.

COMPARISON OF ACREAGE—PRESENT AND FUTURE.

Substantiating the above recommended general use of the harbour, a comparison of the trackage area, present and proposed, is interesting.

SOUTH SHORE—Present Area.....	155 acres
Proposed Area.....	185 acres
	340 acres
NORTH SHORE—Present Area.....	24 acres
Proposed Area.....	947 acres
	971 acres

PUBLIC CONTROL OF AND ACCESS TO WATERFRONT.

It is urgent that immediate steps be taken to insure the gradual carrying out of a programme that will have for its ultimate object the complete development for harbour purposes of the entire shore line of Burrard Inlet.

The essential first step is to secure absolute control of the waterfrontage through the Harbour Commission and sufficient of the back ground to accommodate the railroad tracks and accessory facilities that are necessary. The land should, if possible, be purchased outright and then developed industrially with limited leaseholds, until it is needed for docks and piers. Possibly a form of option may be arranged whereby at a fixed price the land may be acquired later, meantime its use to be controlled by the Harbour Commission.

It should not be neglected, in the development of either shore, to provide public access to the waterfront. This may be done by extending wide avenues or street ends entirely to the pier head line and holding them reserved for public use.

There are no problems involved in the future expansion of the harbour that have not been solved in the past. For the south shore methods used and types of pier construction required would be about the same, except that from about Victoria Drive eastward, on account of the closeness to shore of deep water, the quay type of construction, rather than slips and piers, will be required. Additional room for much needed trackage can be made available along this section, as far as the Second Narrows Bridge.

On the North Shore construction will, in general, be comparatively much cheaper, as there are extensive shallows of easily dredged material. With the exception of a length of about a mile and a-half extending from Moodyville westward, pier and clip construction is practicable.

An essential feature of North Shore development is a new crossing at the Second Narrows of sufficient width to carry two railroad tracks and a highway of four traffic lanes capacity. It does not require great foresight to anticipate this improvement, as traffic conditions on the present bridge are intolerable. When even a small portion of the expected concentration of harbour and industrial life takes place on the North Shore, the mingling of vehicular and railroad traffic on this important structure will eventually force its reconstruction, or replacement by a dam, as has been suggested. Whether a dam or a double-deck bridge should be used is a matter of cost, practicability and effectiveness. A most thorough investigation is necessary before a preference may be indicated.

SPECIAL IMPROVEMENTS RECOMMENDED FOR EARLY CONSIDERATION

FISH DOCK.

Considering the importance of the fishing industry and its volume, the present waterfront facilities for handling the business are inadequate. This industry requires an exceptional degree of supervision in order to preserve sanitary conditions and promote speed and efficiency in movement.

The unloading pier, located at the foot of Gore Avenue, is built of wood and is of the floating type of construction. It is owned by the Canadian Pacific Railway and leased to several parties. There are fifteen dealers, each occupying separate premises.

There is no feature of the present fish dock that can be commended or should be retained. What is required is a complete new pier, built along modern lines, with its own refrigeration, with mechanical appliances and abundant anchorage for the great number of small boats that bring in the fish. It must have good access for teams and trucks. A packing and storage plant should be an integral part of the fish dock, so arranged that the product can be moved directly into cars for shipment or vessels for export.

The site chosen must necessarily be somewhere along the commercial section of the south shore, and of such size that all of the business can be concentrated in the one location.

The construction of a modern fish dock is one of the most useful improvements that could be made at this time and, if carried out, will immensely encourage an essential industry of the port and insure the proper preparation and marketing of one of Vancouver's principal sources of food.

TUG-BOAT WHARFAGE.

It is recommended that more adequate tug-boat wharfage be provided. The importance of this industry to port business is very great and its requirements are immediate availability, fitness of equipment and prompt service. At present there are from 90 to 100 tug-boats operating in the port, and there are five anchorages where these boats may be tied up. Scarcely any of these are adequate and at times are occupied by other vessels, making it necessary for the tug-boats to seek temporary dockage.

If possible, a central location along the south shore should be sought and provided where all of this sort of craft may be concentrated.

The wharf may be of the floating type, hence not unduly expensive, but it should have ample room for storage of supplies, duplicate machinery parts, quarters for the men and offices. The obvious advantage of such an arrangement is that tugs would be avail-



*Gore Avenue Fish Wharf.
There is an Urgent Need for Modern and Up-to-Date
Facilities for This Important Industry.*

able at one central point with a single call. For the anchorage of scows, dolphins or other means should be provided in the vicinity of the tug-boat wharfage. Accommodations for approximately fifty scows appear to be needed at this time.

CHANNEL IMPROVEMENT.

The Harbour Commission doubtless has plans for the widening and deepening of the channel through First Narrows. This is an improvement of decided benefit to navigation, as the channel is used for such a variety of craft that wide steering room is essential. The current is at times rather swift and some inconvenience is experienced when log booms and sea-going vessels attempt a simultaneous passage. It is believed that a total width of 1800 feet may be obtained with at least 1200 feet at 35-foot depth, low water.

COAL HARBOUR.

Coal Harbour is located at the extreme westerly end of the harbour and has an area of approximately 160 acres. On account of its proximity to Stanley Park, its freedom from railroad operations and industry, and its accessibility to the public, Coal Harbour possesses both an aesthetic and a utilitarian value that should not be overlooked. It forms an admirable anchorage for yachts of all kinds during the winter months and indeed is now used extensively for this purpose. The Royal Vancouver Yacht Club has established their summer anchorage quarters on English Bay between Alma Road and the Jericho Country Club and has built there a club house to accommodate 600 members. This was a good move, as passage through First Narrows is at times difficult for yachts of the sailing class, and in addition it removes from the main harbour a class of vessels for which a commercial harbour has no need.

There is no hesitancy in recommending that Coal Harbour be reserved for the use of the lighter craft of a recreational nature and for equipment and club houses devoted essentially to aquatic sports.

At present much of Coal Harbour frontage is occupied by nondescript buildings and some residential house boats, all of which should be removed. An extension of the landscape treatment similar to that along the west shore of Coal Harbour would be appropriate.

SHIP YARDS AND DRY DOCKS.

There appears to be no reason why Vancouver should not become a shipbuilding centre. Certainly it would be of great advantage for so important a seaport to be able to accommodate in docks any vessel able to make the harbour. Once well established and properly encouraged, the shipbuilding industry is fairly permanent in nature and constant in operation. It attracts quite a number of allied industries and employs many men of a desirable class.

There is, at present, one very well-equipped dry dock, that of the Burrard Dry Dock Company, which is located on the North Shore between Lonsdale Avenue and St. George Street. The dry dock has an over-all length of 566 feet, a width of 98 feet and a 30-foot draft. Its lifting capacity is 20,000 tons. There are two shipbuilding butts, one a pier of concrete 50 feet wide and 700 feet long. The machine shops are very complete.

The North Shore is a suitable location for this industry, and in the future harbour plan space for at least three times the present ship building capacity may be safely reserved.

The magnificent graving dock at Victoria for the present relieves the necessity for any immediate expenditure for similar elaborate facilities here.

LUMBER MILLS IN BURRARD INLET.

This is a type of industry that should not be encouraged in Burrard Inlet, for the principal reason that they occupy too much waterfrontage and their operation interferes with navigation. Yet it is essential that so great an industry should be fostered. It has frequently been said that the Fraser River district is the logical place for mills of this sort, and while it may be a loss to Vancouver to prohibit the use of its harbour for milling purposes, it is believed good policy to do so. The complaint most often encountered was that directed toward the interference of log rafts with vessels, especially when both are entering the channel.

DEADMAN'S ISLAND.

This island in Coal Harbour does not appear to fit into any utilitarian schemes for harbour development. It is therefore suggested that it be dedicated to park purposes, for which it appears to have exceptional possibilities. It is prominent in location and visible from many points. With proper treatment something of unique distinction can be made of it.

FERRY AND COASTWISE PASSENGER SERVICE.

With the continued growth in population of North Vancouver, West Vancouver, the Howe Sound area and the numerous inlets, the demand for rapid and high-class ferries and passenger boats will rapidly increase. These constitute the least expensive yet most interesting attractions to the tourists, besides offering to the people of Vancouver every opportunity for healthful recreation.

To be of the utmost value, a pier for this class of vessels should be located as close as possible to the business district, within easy reach by street car or motor.

In the construction of a facility of this sort, the city can afford to contribute heavily, as it is a distinctly municipal undertaking. On the other hand, many other interests should contribute, as they derive revenue from its operation. It is recommended that a combined pier for both local, coastwise and ferry service be constructed as soon as possible and that its cost be shared by the railroads, the City and the B. C. Electric Railway Company.

The preferred location is Pier "D" of the Canadian Pacific Railway. Another is at the foot of Gore Avenue, utilizing the present passenger dock and also the fish dock after the latter has been rebuilt elsewhere.



C.P.R. Piers

FINANCING PORT DEVELOPMENT.

Elsewhere the importance of encouraging the Harbour Commission's Terminal Railway has been stressed. Unfortunately, the extension of this road, as well as the acquisition of much needed land, is hampered by the lack of funds. The Harbour Commission must support itself by revenue derived from its own resources, and it is remarkable that the Commission has successfully operated so long under these conditions. Many ports are supported either partially or wholly by the state or city in which they are located. Considering the tremendous influence for good that an efficient harbour at Vancouver has, not only on the province, but the entire Dominion, its cost and maintenance should be borne by the entire population, and it is urgently recommended that its financing be conducted on a much more liberal scale.

PUBLIC RECREATION

INTRODUCTION

PARKS and playgrounds and other facilities for public recreation are today considered indispensable in the make-up of a great city. No city built according to well-drawn plans and specifications would be without such features. The people need them. They are fully as useful in promoting community health and happiness and contentment as any of the recognized urban necessities. A bathing beach, a playground, a lovely park, each when in full use is in a sense a factory. Its products are smiles, light hearts, ruddy cheeks, sound bodies, wholesome human interests.

If the city does not provide these facilities the loss is felt, even though protests may be few. Vancouver would be much less desirable as a home if Stanley Park did not exist. Many would not care to live in the city if the bathing beaches were abandoned to shipping and the small parks and playgrounds were turned into sites for more homes and industries. A Vancouver without these pleasant open spaces would function with no greater efficiency for industry and commerce, but it would be distinctly less satisfying as a place where men and women could live and bring up children.

The desire for parks and recreation grounds in the city is not confined to any class or any district. The insistent demand which resulted in the creation of Grandview Park is evidence of the interest of the people in such matters. The attractiveness of Point Grey as a residential district is due in part to the willingness of municipal authorities there to set aside public park and play areas. Point Grey has character. It attracts a class of citizens who want parks and are willing to pay for them. The parks bring new citizens, and they in turn create additional property wealth which can be taxed to pay for lands already acquired and new areas needed to serve the new population.

If there is any doubt that parks have an influence upon property values, it can be dispelled by an example from South Vancouver. Prior to the establishment of Prince Edward Park the municipality had scores of tax sale lots on the market in that district. The average price was \$150.00 per lot, with very few being sold at that figure. The park, 2.6 acres, was set aside from these municipal lands. Within a few months thereafter all the lots facing the park were sold at prices averaging \$340.00 per lot. Now sales are being made in other blocks near the park at prices correspondingly higher. The simple act of the council in setting aside that 2.6 acre park changed the character of the district and made property in the neighbourhood more desirable and more valuable.

South Vancouver, however, had done, until this year, 1928, too little in the way of providing park areas for its people. Like Vancouver proper, it stands below its neighbour, Point Grey, in assessed valuation per capita and per acre.

	<i>Area in Acres</i>	<i>Population</i>	<i>Assessed Valuation</i>	<i>Per Capita Valuation</i>	<i>Per Acre Valuation</i>
South Vancouver.....	9,200	45,000	30,252,516	675	3320
Vancouver.....	10,547	143,000	232,895,120	1660	2210
Point Grey.....	8,516	29,000	61,214,311	2105	7200

These figures show plainly that character and attractiveness, quite as much as industry and commerce, create taxable wealth. The ability of parks and other pleasure



Stanley Park—A Discovery

resources to increase the attractiveness of a city is no longer questioned. A park of adequate size in every neighbourhood is, in a sense, a form of insurance against a decline of neighbourhood value and attractiveness. These areas themselves almost never lose value and they tend to keep property nearby from dropping in value.

It is for such reasons as these that a city-wide balanced plan of recreation facilities is made part of the city plan. Future growth of the city is assured. Its present equipment of public recreation grounds is inadequate for the population already here. New areas must be secured. The money spent for them should be spent wisely, not for areas that duplicate the service of existing parks, not for grounds too small or badly located, nor for certain favored districts. The only sound method of keeping the growth of recreation grounds and facilities in reasonable accord with population is to follow a well-considered plan based upon a thorough study of such growth.

This is such a plan. It emphasizes the importance of reserving space for parks now, in the period of rapid population increase. Development can come later. For several years the greater portion of available funds should be put into purchase of new park and playground sites, acquisition of parkway and boulevard routes and preservation of waterfrontage and beach areas. Timely action on many projects will save the taxpayers millions of dollars later. And if a general plan is consistently followed, the ultimate scheme will produce remarkable returns. Vancouver will take a place second to none in the world if it can complete such a system of recreational facilities as is outlined in the following pages. The plan may seem extravagant to some, but it is not out of scale with the greatness of the city or beyond its future needs.

PART I.
OUTLINE OF RECREATION PLAN

CLASSIFICATION OF POPULATION AND RECREATIONAL FACILITIES.
(Plate 39, page 172).

SMALL CHILDREN.

Small children, below school age, ordinarily are closely attached to the home. The provision of fresh air, contacts with nature and space for free, protected play is considered a parental obligation. Yet it is a well-known fact that homes in the city are becoming less suitable as play spaces for small children. Apartment dwelling is increasing, yards are becoming smaller, the streets are more hazardous. It is clearly reasonable to expect that the city itself will be called upon more and more to supply protected playgrounds and other areas needed by this group. These little folks will get the most good out of adequate home grounds, small play lots in each block, nearby supervised playgrounds to which they can go with their parents or older brothers and sisters, drives and promenades which they can enjoy with their elders. If it is possible to find the space, an acre of ground in one or two units should be set aside for these little tots in every quarter of a square mile of residential territory.

CHILDREN OF SCHOOL AGE.

Children of school age are under the guidance and control of educational authorities a considerable portion of the time. The school probably has superseded the home as a creative influence in the life of the child. The recreational activities of school children manifestly should be centered in a supervised playground, preferably one adjacent to and operated in connection with the school. School and playground should function together. In addition to the established play centre referred to above, the school child will still need and use home grounds and protected play lots. Other facilities attractive to this group are swimming pools, camps, park play areas, community centres, playfields, outlying mountain reservations and large parks.

YOUTH.

Youth may have a large part of its recreational needs served by the educational institutions. Every high school and college should have an adequate field for sports as part of the institution. However, there are a number who no longer enjoy school contacts and must depend, in most cases, upon the municipality for recreation facilities. School playfields and also school buildings for community centres may sometimes be available for this class in out-of-school hours, but ordinarily for certain games and sports they must be served by playfields, athletic fields, tennis courts and other recreational facilities furnished by the municipality in parks or other public grounds.

ADULTS.

Adults are generally more interested in quiet, passive recreation than in boisterous, competitive sports. For them there should be neighbourhood parks, large outlying parks, pleasure drives, small rest areas and community centres. The small section of adult population that does enjoy tennis, baseball and similar activities will use nearby available athletic centres.

How to provide facilities or how to combine facilities for the different needs of these groups in the most economic way is the object of a well-balanced recreational programme.

CLASSIFICATION of POPULATION

FACILITIES WHICH SHOULD BE AVAILABLE



SMALL CHILDREN

HOME GROUNDS
 INTERIOR BLOCK PLAYGROUNDS
 NEARBY CHILDREN'S PLAYGROUNDS
 & KINDERGARTENS
 DRIVES
 PROMENADES } IN PARKS



SCHOOL CHILDREN

HOME GROUNDS
 INTERIOR BLOCK PLAYGROUNDS
 PLAY AREAS IN PARKS
 SWIMMING POOLS
 BATHING BEACHES

BOY & GIRL SCOUT CAMPS
 SCHOOL PLAYGROUNDS
 PLAYFIELDS FOR ATHLETICS
 COMMUNITY CENTERS
 OUTLYING NATURALISTIC PARKS



YOUTH

PLAYFIELDS
 SWIMMING POOLS
 BATHING BEACHES

NEIGHBORHOOD PARKS
 LARGE PARKS
 COMMUNITY CENTERS
 PLEASURE DRIVES



ADULTS

HARLAND BARTHOLOMEW
 CITY PLANNING ENGINEER

CHART SHOWING A
 CLASSIFICATION of POPULATION
 & RECREATION FACILITIES

TYPES OF RECREATIONAL FACILITIES AND STANDARDS FOR THEIR DEVELOPMENT.

(Plate 40, Page 174).

The accompanying plate has been prepared to show in a general and diagrammatic way principles that ordinarily should govern the location of various units of a recreation system.

PLAYGROUNDS.

Playground location in the city is amenable to the same formula recommended by qualified educational authorities for the location of public elementary schools. Each elementary school should serve a homogenous residential district approximately a mile square and should be as near as possible the centre of this district. Under such conditions a population of 8,000—12,000 would be found in the district when finally built up, and enrollment at the public school would be between 850 and 1300. A modern playground, serving all the recreational needs of the children of the district. The school site should comprise at least five acres with provision for at least 100 square feet of unobstructed play space per child and no other interests should occupy space in the same block. The returns from any investment in land for school or playground purposes will be reduced if located alongside railways, in industrial districts, on major streets, on car lines or in districts that are losing residential character.


School playgrounds, however, cannot as a rule serve the very small children below school age. Where home grounds cannot afford them the necessary play area, interior block playgrounds may be found satisfactory. These provide a safe place in which the younger children may play more or less under the watchful eyes of mothers. Such playgrounds are especially valuable in apartment house districts. The chief requirement is to make lots 130 feet or more deep, dedicating an easement for play purposes over the rear 25-40 feet of each tier of lots. The easement, running for 10 or 20 years and subject to automatic renewal, unless opposed by the majority of owners, may be for the benefit of either the general public or for owners of property in the block. Such interior block playgrounds require too much attention to be properly maintained by the ordinary Parks Board staff, but the small play area is of real practical value when its maintenance is assured through a strong neighbourhood organization.

PLAYFIELDS.

These recreation areas generally draw from districts approximately a mile and a-half in diameter. A playfield should be found at every high school. Every high school site, in order to provide for an adequate playfield, should comprise from 15 to 25 acres. Certain neighbourhood parks and large parks should contain playfields, and even parkway areas may be widened to permit development of such facilities. The factors which seriously affect the usefulness of playgrounds, such as railroad yards, industrial districts, car lines and major thoroughfares, do not interfere so much with the use of playfields which attract older boys and girls who are able to travel farther and cross such barriers with safety.

COMMUNITY CENTRES.

Every populous neighbourhood should have a building for its indoor social and recreational activities. The junior high, or in some cases the public schools are the logical neighbourhood centres and should be designed for such out-of-school uses. They need gymnasiums, auditoriums, branch library, art gallery and similar features. A first class community centre will attract attendance from a mile to a mile and a-half.



INTER-COR BLOCK PLAY AREAS OFFER PROTECTION TO CHILDREN WHO WOULD OTHERWISE BE UPON THE STREETS

BLOCKS WITH EXCESSIVE LOT DEPTHS SHOULD PROVIDE NEIGHBORHOOD BLOCK PLAYGROUNDS

PROTECTED PLAY AREAS ARE POSSIBLE IN BLOCKS WITH LOT DEPTHS OF 150 FT.

PROTECTED PLAY AREAS



COMMUNITY CENTERS ARE NEIGHBORHOOD MEETING PLACES, SHELTERS, HOUSES IN PARKS, OFFICE BUILDINGS WHICH MAY BE USED AS A RECREATION HALLS

DISTRICTS OF 1/4 MILE RADIUS MAY BE SERVED

COMMUNITY CENTERS




PLAYGROUNDS FOR SCHOOL CHILDREN WITH SUPERVISION SHOULD CONSTITUTE THE PLAYGROUND SYSTEM

SMALL PLAYGROUNDS SHOULD CONTAIN AT LEAST 5 ACRES PLAYGROUND SHOULD SHOW 100 SQ FT PER CHILD ENROLLED

PLAYGROUNDS WITH SUPERVISION HAVE AN EDUCATIONAL AS WELL AS RECREATIONAL SIGNIFICANCE. DISTRICTS OF 1/4 MILE RADIUS SHOULD BE SERVED

SUPERVISED SCHOOL PLAYGROUNDS




CERTAIN SECTIONS OF THE PLEASURE DRIVE SYSTEM SHOULD BE OF THE FORMAL BOULEVARD TYPE

THE PLEASURE DRIVE SYSTEM SHOULD HAVE 75' CORRIDOR WITH AT LEAST 6' TRAIL WAY

OTHER SECTIONS OF THE PLEASURE DRIVE SYSTEM SHOULD BE OF THE INFORMAL NATURALISTIC TYPE

PLEASURE DRIVES




PLAYFIELDS GENERALLY SHOULD SERVE DISTRICTS OF FROM 1/4 TO 1/2 MILE RADIUS SHOULD BE FROM 10 TO 20 ACRES AREA

ONE SET OF PLAY FIELDS SHOULD BE ORANGE AT ALL JUNIOR & SENIOR HIGH SCHOOLS AND OTHER SET SHOULD BE IN PARKS OR SPECIAL USES

SWIMMING POOLS TENNIS COURTS FOOTBALL & BASEBALL FIELDS ARE TO BE DEVELOPED IN CONNECTION WITH PLAYFIELDS

PLAYFIELDS




ONE LARGE PARK SHOULD BE A RECREATION PARK HAVING AS ITS MAIN FEATURES TENNIS COURTS GOLF COURSES BASEBALL FIELDS & POLO GROUNDS

THERE SHOULD BE A PARK FEATURING WATER PLAY FOR WATER SPORTS

OTHER TYPES OF PARKS IN THE LARGE PARK SYSTEM SHOULD INCLUDE AMUSEMENT TYPES-NATURALISTIC TYPES-BOTANIC GARDEN TYPES

LARGE PARKS



EVERY SQUARE MILE OF RESIDENTIAL AREA SHOULD HAVE ONE NEIGHBORHOOD PARK

A PARK OF THIS TYPE SHOULD HAVE A PORTION OF ITS AREA USED AS A PLAYFIELD

A NEIGHBORHOOD PARK TO BE ABLE TO RENDER FIRST CLASS SERVICE SHOULD HAVE AT LEAST 20 ACRES-PREFERRED 30 TO 75 ACRES

NEIGHBORHOOD PARKS

SWIMMING POOLS BATHING BEACHES OUTDOOR THEATRES TENNIS COURTS

SPECIAL FACILITIES

BARTHOLOMEW & ASSOCIATES
CITY & LANDSCAPE ENGINEERS

TYPES OF RECREATION FACILITIES

VANCOUVER
TOWN PLANNING COMMISSION
1928

NEIGHBOURHOOD PARKS.

Neighbourhood parks are indispensable in the modern city. They are intimate community recreation areas. Their great value depends chiefly upon their accessibility. A neighbourhood park should be within walking distance of practically every person in the city—one-half mile is generally considered a fair radius of the service area.

Neighbourhood parks should be large enough to bring some impression of the country to the city. Twenty acres is a fair minimum size, though from 30 to 75 acres is recommended where possible. The fact that parks of this type are planned to fit into the thickly built up interior of the city suggests limitations as to size. They must be compact, thoroughly serviceable areas designed to offer the maximum recreational advantages to those who live around them. They must not be of clumsy shape or loosely developed or they will interfere with the functioning of the city without offering compensating advantages.

Theoretically, a neighbourhood park of 20 or 30 acres should occupy the centre of each square mile of residential territory in the city. The placement of such a park should be determined primarily by the boundaries of the district which it is to serve. Considerations of topography, groves of trees and the like should not be permitted to weigh too heavily against a central location. With a normal population density around it, each park of this type may be expected to serve approximately 2500 families. The number of people who will use the park, however, will be dependent upon the character of the district. A determination of residential areas is a prerequisite to effective neighbourhood park location as well as school and playground location. The availability of automobiles may lessen the interest of some in a recreation area so close at hand; but there will always be a large number who will be unable to seek relief from oppressive city conditions in long drives or visits to more outlying recreation areas. Many of these will enjoy walking to an attractive neighbourhood park.

LARGE PARKS.

The modern city should be encircled by a series of large outlying natural parks. These areas, all connected by a system of pleasure drives, should offer wholesome retreat from the noisy, busy city. Topography should be a predominant factor in their location and their general treatment should be highly naturalistic. They should embrace and preserve for the city dweller all types of the native landscape around the city. Woods and hills, lakes and valleys of streams naturally suggest themselves as public reservations. More and more are contacts with wild nature necessary in this age of confinement and artificiality; the city must set aside choice bits of such country for later use. Each large park area may be developed with some distinct feature—one may be preserved as a wholly wild, natural park, another used as a golf course, another as an arboretum and botanic garden with special floral displays, while still another may serve as a zoological garden.

PLEASURE DRIVES.

Wide, restricted traffic ways, designed to afford the motorist genuine pleasure in driving over them should connect all large parks. Such routes should take the form of boulevards where topography and existing land subdivision suggest straight, formal lines and parkways where streams may be followed and lines may meander over irregular terrain.

In order to permit regulation of traffic, pleasure routes should be selected preferably through unsubdivided territory and be so planted that heavy utilitarian traffic will find

no necessity for using either boulevard or parkway as a thoroughfare. If possible a major street should lie parallel to every pleasure route. Ordinary existing streets or highways should not be considered as possible boulevards, as it is practically impossible to restrict traffic on such routes to pleasure vehicles only.

SPECIALIZED FACILITIES.

Bathing beaches, swimming pools, outdoor theatres, and the like, are recreation features that may also be located in or connected with parks.

RATES OF SPACE TO POPULATION AND AREA.

All the units listed above, play lots and school grounds for small children, playfields for youth, community centres, neighbourhood parks, large parks and pleasure drives, when considered as a system, reach every age group and touch every part of the city. In total area there should be approximately one acre for every 100 persons in the city. For in any square mile of residential territory (8,000-12,000 persons) the apportionment of space should be somewhat as follows:

	<i>Acres</i>
4 play lots of 1 acre each.....	4
1 elementary school playground.....	3
1 junior high ($\frac{1}{4}$ of total playfield).....	3
1 senior high ($\frac{1}{6}$ of total playfield).....	3
1 neighbourhood park.....	20-30
1 mile of pleasure drive (averaging over 250 feet wide).....	32
Area in large outlying parks and reservations.....	30-50
	95-125

Excepting the area in outlying large parks and reservations, this represents approximately 10 per cent. of each square mile. In developing new territory the aim should be to follow these general formulas as far as possible.

The figures in regard to park lands (including school playgrounds) now used or set aside, and including Little Mountain Park and 246 acres in South Vancouver reserved but not dedicated are (November, 1928) as follows:

	Total City Acres.	Park Area, Acres.	Per Cent. Park Area to Total Area.	Present Population.	Persons Per Park Acre.	Estimated Future Population.	Person Per Park Acre.
Vancouver	10,547	1,345	12.8	143,000	105	375,000	276
Point Grey.....	8,516	200	2.3	29,000	145	140,000	700
South Vancouver.....	9,200	426	4.6	45,000	105	220,000	516
	28,263	1,981	7.1	217,000	110	735,000	371

At present it can be said that Vancouver is fairly well served as compared with other cities. There is need for greater areas for the future city, particularly in Point Grey and South Vancouver. The present total of 1981 acres must be considerably increased to provide ten per cent. of the area of the new city in park lands and should be increased to 7,350 acres. This means four times the present park areas within the municipalities of Vancouver, Point Grey and South Vancouver.

PART II.

EXISTING PARKS IN VANCOUVER

It was in the year 1886 that Vancouver was incorporated as a city and the steel of the Canadian Pacific Railway joined the West to the East. The very next year Stanley Park, a military reserve of 1,000 acres, was leased to the City of Vancouver. It was opened and christened by Lord Stanley, then Governor-General of the Dominion, in 1889 and given its present name. In 1908 the park was leased to the city for a period of ninety-nine years, renewable.

In 1889 Clark Park was dedicated to the city by Mr. E. J. Clark of Vancouver, and in the same year Hastings Park was acquired by gift from the Provincial Government. In 1909 this park of 160 acres was divided, one portion consisting of eighty acres being turned over to the Exhibition Association, the other section to the Parks Board for administration. Subsequently the whole area has come under the jurisdiction of the Vancouver Exhibition Association and a portion developed as a municipal golf course under their control.

Stanley Park and Clark Park were the first parks of consequence to be reserved. To date the following park areas have come into public use by dedication, gift or nominal lease (Schedule 2).

PARKS SECURED WITHOUT COST

<i>Year</i>	<i>Park</i>	<i>Area</i>	<i>By Whom Dedicated</i>
1889	Clark Park.....	7.34 acres	Mr. E. J. Clark
1889	Hastings Park.....	160.0 acres	Provincial Government Grant
1911	McBride Park.....	5.5 acres	Provincial Government Grant
1924	Victory Square.....	0.9 acres	Provincial Government Grant
1887	Stanley Park.....	1000.0 acres	Dominion Government Lease
1927	Grandview Park.....	2.4 acres	Dominion Government Lease

Since the dates mentioned, other parks have been acquired, but largely by purchase, and particularly between the years 1902 and 1912 (as shown on the accompanying Schedule 2). It will be noted that the average cost per acre is high, and the maximum is over \$40,000.00 per acre. Bought in an early stage of the city's development, these parks would have cost but a mere fraction of what they did.

SCHEDULE 2

PARKS PURCHASED

Cost of Land Per Acre Including Loan Expenses.

<i>Year Purchased</i>	<i>Name of Park</i>	<i>Acres</i>	<i>Cost</i>	<i>Cost Per Acre</i>
1902-11	English Bay Park.....	4.3	\$143,438.75	\$33,357.00
1902	Cambie (Recreation Ground).....	3.	25,000.00	8,333.00
1902	Oppenheimer (Powell St. Recreation Ground).....		31,800.00	13,250.00
1902	McLean (Harris Square Recreation Ground).....	2.4	15,900.00	6,625.00
1902	Strathcona (Fairview).....	5.5	5,306.00	964.00
1907	Tatlow (Kitsilano).....	2.7	10,600.00	3,925.00
1909	Victoria.....	2.4	28,100.00	11,700.00
1909	Robson (13th and St. George).....	2.7	21,200.00	7,852.00
1909-13	Kitsilano Beach.....	4.3	63,600.00	14,790.00
1911	Douglas (China Creek).....	3.9	38,125.00	20,065.00
1912	Garden.....	2.4	43,505.00	18,127.00
1912	Connaught.....	14.8	145,616.89	9,839.00
1912	Pandora (Nanaimo and Alberta).....	3.7	130,663.82	35,314.00
1912	Sunnyside (D.L. 301).....	2.4	39,880.38	16,616.00
1912	Woodland (McLean and Keefer).....	1.8	77,766.00	43,203.00
1912	Coal Harbour (Foreshore).....	2.2	84,953.36	38,615.00
		58.5	\$905,455.20	

Woodland and Pandora Parks are mere open spaces in working class residential districts.

The public school grounds of Vancouver should normally be counted in any inventory of recreation areas. They have not thus far, however, been considered part of the recreation system. They will be examined in detail later in connection with recommendations for enlarging their usefulness to the children of the city.

POINT GREY.

The Municipality of Point Grey, since incorporation in 1908, has gradually been acquiring and developing land for park purposes. This acquisition, with the exception of small ornamental parks at street intersections, incidental to the subdivision of which they form part, has been entirely by purchase on the part of the municipality.

In 1914 the total park area in Point Grey was forty (40) acres, which has increased to some 135 acres in 1928. Since incorporation some \$400,000 has been voted by the ratepayers for park purchase and development, in addition to which considerable amounts have been expended annually from revenue.

Recently the ratepayers of the municipality have shown their realization of the importance of proper park provision and incidentally set an example to the electorate of the Greater City in this respect by passing a \$50,000.00 bylaw for the purchase of their portion of Little Mountain Park by a majority of more than twelve to one.

SOUTH VANCOUVER.

It is only within recent years that the Municipality of South Vancouver has been giving serious attention to park requirements. There was granted to the Municipality by the first Reeve of South Vancouver and named after him, Brewer's Park, 3.6 acres. Another grant was made by Councillor Gray, Gray's Park, with an area of a little over one acre.

Since 1924 there have been added numerous park areas that have been dedicated by the Municipality out of tax sale lands. There are now in all some 122 acres. Through the efforts of Mr. A. J. McDonald, Chairman Parks Committee of South Vancouver, there have been reserved from sale a further 106 acres, made up of four parcels, varying from ten to nearly forty acres. There is a further 140 acres of tax sale lands, which by the vote of the Municipality has been reserved from sale with the intention of using it as a municipal golf course. A municipal automobile camp in this vicinity has an area of ten acres and is taken advantage of to some extent by tourists.

These reservations represent lands valued at approximately \$200,000. Thus South Vancouver, by timely action, secures over 200 acres of park lands, which would cost at the rate Vancouver has paid for only 58.5 acres, \$3,000.00. It is safe to state that these reservations in South Vancouver will be worth three million dollars in a few years and will add additional millions to the valuation of other property in the city.

As yet, most of the park areas are undeveloped, but \$5,000.00 was recently spent on Memorial Park by the Gyro Club in children's playground equipment, and \$15,000.00 by the municipality in general development.

LITTLE MOUNTAIN PARK.

While the area known as Little Mountain Park lies only in Point Grey and South Vancouver, being largely in the latter municipality, arrangements were made some years ago by both these municipalities and the City of Vancouver jointly to purchase the area. Though delays have occurred, it is expected that after amalgamation arrangements for this purchase will be finally completed.

The following table shows for Vancouver, Point Grey and South Vancouver information in regard to the location and present use of both developed and undeveloped park lands.

PARKS AND RECREATION GROUNDS

VANCOUVER			
<i>Park</i>	<i>Area</i>	<i>Location</i>	<i>Type of Development</i>
Alexandra.	4.3	English Bay	Bathing Beach
Cambie Grounds	3.0	Cambie and Georgia Streets	Athletic Ground.
Clark Park	7.0	4th and Commercial	General
Clinton.....	3.5	Grant and Clinton	
Connaught	14.8	10th and Larch.....	Athletic Ground.
Douglas	1.9	Broadway E. and Clark Drive	Ravine (unimproved).
Garden	2.4	2nd and Templeton	
Granville	1.8	10th and Pine	Athletic Ground.
Haro Playground	.8	Haro and Bute	Playground (Super).
Hastings	160.0	North Hastings.....	Exhibition Gr. Golf.
Kitsilano	17.6	Arbutus and Cornwall	Bathing Beach (Super) Playground General.
McBride Park	5.5	4th and Waterloo.	Athletic Ground.
McLean	2.4	Georgia and Dunlevy	Playground (Super).
Oppenheimer	2.4	Powell and Dunlevy.....	
Pandora	3.7	Nanaimo and Pandora.....	Playground (Super).
Prince Edward	3.5	23rd and Prince Edward.....	
Renfrew	3.0	22nd and Renfrew	Athletic Ground
Renfrew Ball	11.25	16th and Slocan	Athletic Ground.
Robson	4.5	Kingsway and Caroline	Athletic Ground and Playground (Super).
Rupert	9.0	19th and Rupert	
Strathcona	5.5	10th and Cambie	General.
Stanley Park	1000.	First Narrows.....	Natural Park.
Sunnyside	2.4	17th and Glen.....	General Park.
Tatlow Park	2.7	3rd and McDonald	General Park.
Templeton	4.2	Turner and Templeton	Athletic Ground.
Thornton	3.8	Union Station	Ornamental.
Trout Lake	35.0	S. Boundary and Lakewood.	Undeveloped.
Victoria	2.4	Victoria and Kitchener	Floral.
Victory Square	.9	Hastings and Cambie	Floral.
Woodland	1.8	Woodland and Keefer	Athletic Ground.
Dunbar	3.4	12th and Dunbar	Tennis.
Coal Harbour	2.2	Coal Harbour	Tennis.
Haddon Gift	4.0	West of Kitsilano Reserve....	Undeveloped.
	3.0	Grant and Clinton.....	Undeveloped.
Grandview	2.4	Commercial and William	Athletic Ground.

PARKS AND RECREATION GROUNDS

POINT GREY PARKS

<i>Park</i>	<i>Acres</i>	<i>Location</i>	<i>Type of Development</i>
Athletic Park	6.25	Oak and Park Drive.....	
Arkell Park	.20	50th and Marine Drive.....	
Angus	2.20	Angus Drive.....	Ornamental.
Braemar	3.125	26th and Willow.....	
Chaldecott	8.55	25th and Wallace.....	
Devonshire.....	3.95	Selkirk and Devonshire Crescent	
Douglas	13.16	20th and Heather.....	Athletic Ground.
Eburne	2.404	71st and Oak.....	
Georgia.....	21.58	Crown and Marine Drive.....	
Heather	2.40	18th and Heather.....	Tennis, Playground.
Kerrisdale	3.805	41st and Larch.....	Bowling Greens and Athletic Ground.
Locarno.....	9.87	Trimble and Marine Drive N.....	Bathing Beach.
Marine Drive	4.35	Blanca and Marine Drive.....	
Marpole	9.669	72nd and Cartier.....	
Maple Grove.....	8.445	51st and Yew.....	Wading Pool.
Marine Triangle	.69	49th and Marine Drive.....	Ornamental.
Memorial.....	18.53	33rd and Dunbar.....	Athletic Ground.
River View.....	5.82	64th and Angus Drive	
Ravine	1.60	33rd, 36th W. of Arbutus.....	
Shaughnessy	3.50	The Crescent.....	Floral.
Trafalgar	4.232	25th and Trafalgar.....	
Westmount	0.983	2nd and Blanca.....	
West Point Grey	9.44	6th and Trimble.....	
Municipal Grounds		West Boulevard.....	Floral.
	8.53	29th and Carnarvon.....	Undeveloped.
	1.90	22nd and Balaclava.....	Undeveloped.
	14.21	16th and Carnarvon.....	Undeveloped.

POINT GREY AND SOUTH VANCOUVER

Little Mountain Park..	100.00	Cambie and 29th.....	Reservoir.
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SOUTH VANCOUVER PARKS

<i>Park</i>	<i>Acres</i>	<i>Location and Development</i>
Brewer's Park . . .	3.60	Victoria Drive at 26th Avenue.
Collingwood...	3.30	Euclid and McHardy.
Gray's Park	1.22	34th and Windsor.
Memorial . . .	33.50	43rd and Prince Albert (Recreational).
Norquay	3.04	Kingsway and Wales.
Prince Edward . .	2.60	47th and Prince Edward.
	6.63	53rd and Main.
	3.58	67th and Marlborough.
	2.15	52nd and Tyne.
	2.56	43rd and Wales.
	1.27	Kingsway and Nanaimo.
	20.27	Trout Lake.
	2.24	37th and Main.
	1.00	Cambie and Marine Drive.
	2.00	Elliott and Marine Drive.
	7.79	56th and Elliott.
	1.46	66th and Wales.
	0.627	19th and Main.
	1.83	65th and George.
	4.46	47th and Nanaimo.
	10.00	Adjoining Mountain View Cemetery.
	0.21	Municipal Hall Grounds (Floral).
	5.13	34th and Knight.
	19.80	51st and Argyle.
	32.00	46th and Carlton.
Riverview	1.80	Joyce and Price Road.
Moberley	5.13	59th and Ross.
	10.00	Boundary and Champlain.
	24.65	61st and Carlton.

PUBLIC AREAS AVAILABLE FOR RECREATION.

(Plate 41, Page 184).

On the accompanying map there is shown the relationship of various types of recreational facilities and areas provided in Vancouver and District. There is evidently an appreciation of the value of parks. But not all the standards herein laid down have been

met. In certain districts but few of the parks have been developed, and, as already mentioned, provision must be made for the future. The object of the succeeding studies will be to determine what improvement, if any, might be made in existing facilities and what further facilities should be provided in accordance with the standards set up.

A general survey of all the park assets of Greater Vancouver reveals the fact that:

1. The city has but one park that is outstanding as to size and character. Stanley Park, in the minds of many visitors, is Vancouver and Vancouver is Stanley Park. Because of the dominance of this unit the absence of a park system and the lack of other parks of notable merit there is a disposition to over-build in it, to use it as a repository for all the animal collections, gardens, antiquities, statues and fountains for which space has to be found from time to time. This excess of interest in Stanley Park and the constant expenditure of funds upon roads, walls, walks and other works needs to be corrected, not only for the preservation of the truly valuable qualities of the park itself, but for the purpose of focussing public attention upon the need of a well-rounded park system.

2. The city does not possess a well-distributed system of local or neighbourhood parks. With the exception of Connaught Park, 14.8 acres, and Clark Park (which can scarcely be considered under this classification) there is not an area of sufficient size to be representative of this most usable type of park. All except Strathcona are under five acres. Parks of this size have some value, but cannot be developed to render proper service to all living in the district or to any appreciable extent affect nearby property values.

3. Vancouver misses the great value of a continuous system of pleasure drives. A city that has such an appeal to visitors needs a well-marked, specially developed park-like chain of drives running through the city over which visitors might be taken and over which the thousands who enjoy motoring might drive for pleasure.

4. The public schools have not been properly fitted into the recreation scheme. Many of the schools are without play areas of adequate size. Few are well arranged for play use and none have been fenced, planted and developed in accordance with standards commonly accepted elsewhere.

5. The beaches and waterfront areas of the city, which are plainly marked for recreation use, are slowly being appropriated for private purposes. Values are increasing. Vacant areas are being built upon. (See Plate 48, page 204, as to undeveloped areas). It is obvious that the ultimate need of increased waterfrontage and beach area is not appreciated or greater funds would annually be put into the acquisition or control of desirable shore properties. There is no matter of greater urgency than that of undertaking a systematic and determined campaign of waterfront acquisition along such lines as are laid down in the plans following.



*MacDonald School.
This is Typical of Many Vancouver School Grounds -
Showing Lack of Planting and Poor Grouping
of Buildings.*



TENNIS COURTS



FOOTBALL FIELDS



BASEBALL FIELDS



PUBLIC AREAS AVAILABLE FOR RECREATION



BATHING BEACHES



CRICKET GROUNDS



PICNIC GROUNDS

EXISTING RECREATION FACILITIES VANCOUVER B.C. 1978

VANCOUVER
TOWN PLANNING COMMISSION

HARLAND BARTHOLOMEW
& ASSOCIATES
TOWN PLANNING CONSULTANTS

PART III.

RECREATIONAL PROGRAMME

EXISTING AND PROPOSED PLAYGROUNDS.

As has previously been noted, the ideal recreation plan would provide play space for the children of the city in the following manner.

1. By small play lots, such as Woodland Park, 1.8 acres; Cambie, 3.0 acres; Renfrew, 3.0 acres in the city proper. Heather, 2.4 acres, and Kerrisdale, 3.8 acres in Point Grey, and Prince Edward, 2.6 acres in South Vancouver. Many more such small play lots should be developed, especially in congested neighbourhoods.

2. By developing all school sites, so that ample, attractive playgrounds may be found adjacent to each building.

ADMINISTRATION OF PLAYGROUNDS.

(Plate 42, Page 186).

Modern experience proves that the playground should be used both in and out of school hours, and that such play should be supervised.

The accompanying plate illustrates graphically the importance to safety, health and happiness of the supervised playground in modern city development.

The present supervised playgrounds in Vancouver number seven, and are known as McLean, Ceperley, Haro, Kitsilano, Pandora, Grandview and Robson Playgrounds. They are not in connection with school grounds, as is both economic and desirable. The supervision of these seven playgrounds, the location of which is shown on Plate 44, page 192, is only for the summer months. Supervision of playgrounds should, of course, be carried on throughout the year.

In the 1912 Annual Park Report this statement is made: "Study of the way in which different cities control their playgrounds shows a large variety of methods. Out of 285 cities which reported on the subject, 84 placed the control in the hands of the Recreation or Playground Association, 35 under the School Board, 33 by the Park Boards, and the others under various combinations of management. Therefore, it is probable that in the future Vancouver will find it advantageous to place this work under the control of one department or create a special commission to guide the movement."

As the result of this and more recent experience, and in the absence of a Playground Association, it is strongly recommended that a joint committee from the School Board and Parks Board be formed to arrange for all year-round supervision of schools and other playgrounds under a permanent playground supervisor.

ADMINISTRATION OF PLAY & RECREATION GROUNDS

ILLUSTRATING CHANGING CONDITIONS SURROUNDING CHILD LIFE IN THE CITY AND SUPPORTING ARGUMENTS FOR ADEQUATE PLAYGROUNDS AT ALL SCHOOLS

BARTHOLOMEW & ASSOCIATES
CITY PLAN & LANDSCAPE ENGINEERS



WORK FOR CHILDREN AT HOME



LARGE HOME GROUNDS



BOOK LEARNING IN SCHOOL



SMALL SCHOOL GROUNDS



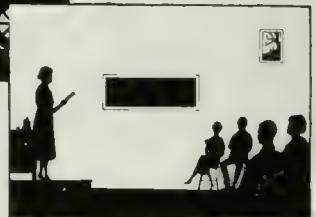
NO WORK—PLAY IN STREETS



SMALL HOME GROUNDS



INCREASE OF DELINQUENCY



ORIGIN OF MOVEMENT TO PROVIDE PUBLIC PLAYGROUNDS

EDUCATION THROUGH PLAY
PATRIOTISM
JOHNNY
COURAGE
HONESTY
TOLERANCE
GOOD SPORTSMANSHIP

EDUCATIONAL-RECREATIONAL ACTIVITIES
KITE FLYING DOLL SHOWS FOOTBALL
SKATING HIKES SAND CRAB PARTIES
PAGEANTS PET SHOWS LANTERN PARADE TOY MAKING
MARBLE CONTEST FOLK DANCES VOLLEY BALL MUSIC CONTEST

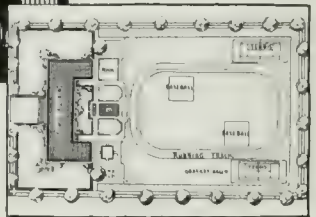
PLAY AN EDUCATIONAL NEED



CHANGED URBAN CONDITIONS—APARTMENT DWELLING INCREASING TRAFFIC IN STREETS



LONGER SCHOOL DAY—ALL YEAR SCHOOL



ADEQUATE PLAY FACILITIES NEEDED AT ALL SCHOOLS

THIRTY YEARS AGO

CHANGING CITIES

THE PRESENT DAY



Supervised Playground in Robson Park

There is a certain amount of economy in having all children's play activities centered in the public school system and administered chiefly by school officials. Supervised play as it is now developed is to a considerable degree educational in character. It is not incumbent upon the Parks Board to enter the field of education. It has other work to do. The School Board must recognize the value of play as an educational force and be prepared to utilize the natural play impulses of the child in its school programme. It is important, therefore, that an adequate playground be considered an essential part of the equipment of every school. In this connection see Plate 43, page 188, showing layout of typical modern school playground.

As previously mentioned, each school should show at least 100 square feet of play-space per pupil enrolled, the minimum net area of the playground being two acres. In districts that are only partially built up, the grounds should be enlarged, if necessary, to accommodate the maximum anticipated enrollment. The present conditions at each school in the city are shown in Schedules 1, 2 and 3.

The recommendations as to the providing of new school sites, the abandonment of others, and the enlarging of certain sites are shown on Plate 43. These recommendations are based on the studies of present and future population, and the effect of abandonment or the provision of new facilities. More detailed study in conjunction with the School Board is recommended before any further additions are made to existing facilities.

TYPICAL SCHOOL MODERN SCHOOL PLAYGROUND

BARTHOLOMEW & ASSOCIATES
City Plan and Landscape Engineers

NOTE: The fence and planting reduce the possible detrimental effect upon adjacent property. The area is large enough to allow for children near building and shaded apparatus concentrated along side center space depression for roller skating, games, for skating or games.

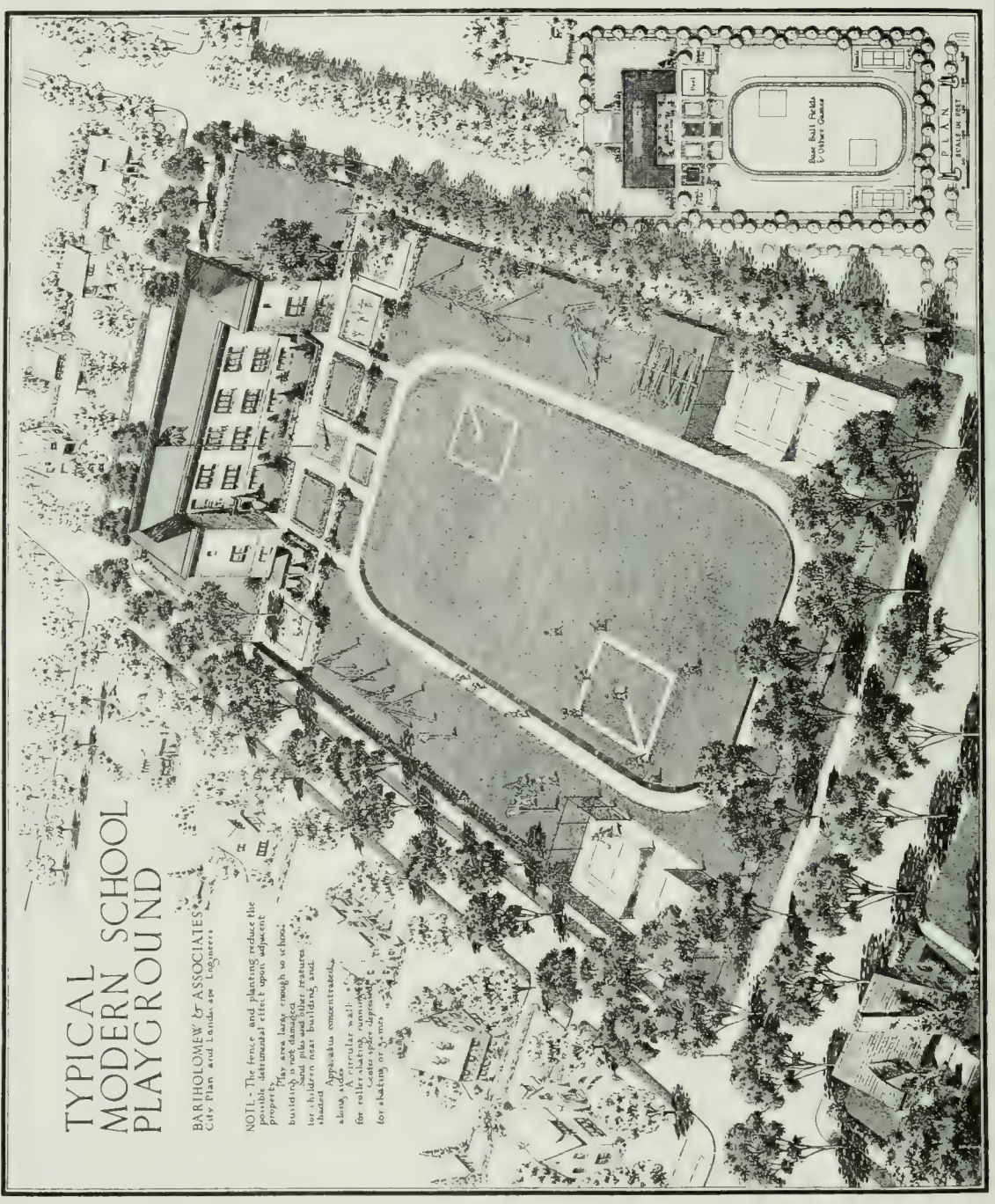


Plate 43

SCHEDULE I.
VANCOUVER PUBLIC SCHOOLS

Vancouver Schools	Area in Acres.	Total Enrollment.	Number of Pupils Within 1/4-mile Walking Distance.	Play Area in Square Feet.	Square Feet Per Pupil.	Square Feet Per Pupil Within 1/4-mile Walking Distance.	Location and Remarks.
Aberdeen	.82	475	253	12,500	26	50	Burrard-Barclay.
Alexander	2.65	570	288	96,670	169	335	Broadway-Clark Drive.
Bayview	2.09	359	190	71,946	200	378	6th Ave.-Collingwood.
Block 70 (Nelson Annex)	3.05	125	53	143,696	1,149	2,711	Kitchener-Lillooet.
Beaconsfield	2.91	418	62	117,470	281	1,895	20th Ave.-Clinton.
Cecil Rhodes	3.08	585	207	119,862	203	574	14th Ave.-Alder.
Central	2.78	534	285	69,813	131	245	Pender-Hamilton.
Charles Dickens	2.40	705	347	55,440	79	160	17th Ave.-Glen Drive.
Dawson	2.95	890	431	51,494	58	120	Burrard-Hamilton.
Florence Nightingale	2.43	636	310	51,732	81	167	12th Ave.-Guelph.
Franklin	3.20	363	157	87,000	239	554	Albert-Cariboo.
General Gordon	3.03	724	298	70,416	97	236	6th Ave.-Bayswater.
Grandview	2.40	495	133	96,228	194	733	1st Ave.-Commercial.
Grenfell	...	88	88	...	...	...	Wall-Clinton.
Hastings	3.20	858	308	60,840	71	198	Albert-Clinton.
Henry Hudson	3.17	621	333	110,700	178	333	Cornwall-Cypress.
Kitsilano	1.69	318	222	64,240	202	289	4th Ave.-Yew.
Laura Secord	2.40	650	133	81,384	125	612	Lakewood-Broadway.
Livingstone	2.40	455	286	90,585	199	317	23rd Ave.-Sophia.
Lord Roberts	3.19	903	398	112,963	125	284	Bidwell-Comox.
Lord Nelson	2.40	769	253	69,392	90	274	Charles-Templeton.
Model	3.93	534	209	123,256	231	590	12th Ave.-Ash.
Mount Pleasant	3.74	727	265	142,500	196	538	Broadway-Kingsway.
MacDonald	2.40	597	278	46,809	78	284	Hastings-Victoria.
Open Air	1.84	66	...	7,000	106	...	20th-Clark.
Renfrew	7.37	150	89	309,378	2,062	3,476	22nd-Rupert.
Seymour	2.43	833	304	65,592	79	216	Georgia-Vernon.
Simon Fraser	3.36	604	219	128,544	213	587	16th Ave.-Manitoba.
Strathcona	2.43	1,252	798	47,199	38	59	Pender-Jackson.
Tennyson	3.1	799	208	78,858	99	379	10th Ave.-Cypress.
	82.94	17,103	7,605	2,583,507	151	340	59 1/2 Acres Play Area.

SCHEDULE II.
SOUTH VANCOUVER PUBLIC SCHOOLS

Schools.	Area in Acres.	Total Enrollment.	No. of Pupils in 1/4-Mile Walking Distance.	Area in Square Feet.	Square Feet Per Pupil	Square Feet Per Pupil in 1/4-Mile Walking Distance.	Location and Remarks.
Alexander McKenzie	4.68	666	239	182,770	274	765	Fraser Near 47th Ave.
Champlain, 60th Ave.-Kerr	4.01	..	..	171,880	.....	..	Closed indef.
Connaught	3.22	64	30	136,440	2,132	4,548	Rupert--Wellington.
General Brock	2.51	456	210	92,150	204	459	Main near 32nd Ave.
General Gordon	5.03	460	104	194,100	402	1,866	Knight-51st Ave.
General Wolfe	3.24	639	207	117,675	184	569	Ontario-26th Ave.
Lord Selkirk	4.24	905	270	154,685	171	573	Commercial-22nd Ave.
Norquay	8.80	552	149	365,290	662	2,452	Slocan near Euclid.
North Arm	1.95	60	60	75,480	1,258	1,256	Fraser-Marine.
Richard McBride	2.53	674	139	77,500	115	558	Culloden-29th Ave.
Secord	2.19	251	45	85,480	341	1,900	Victoria-51st Ave.
Sexsmith	3.12	362	82	125,050	345	1,537	Ontario-61st Ave.
Sir Guy Carlton	5.91	933	217	221,240	237	1,019	Joyce-Kingsway.
Sir Van Horne	3.26	437	90	126,634	290	1,407	Ontario-44th Ave.
Tecumseh	2.98	739	210	107,630	146	516	Commercial-43rd Ave.
Walter Moberley	3.79	486	108	148,860	306	1,378	Ross-61st Ave.
	61.46	7,683	2,160	2,382,964	310	1,103	

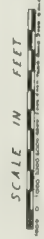
SCHEDULE III.
POINT GREY PUBLIC SCHOOLS

Schools.	Area in Acres.	Total Enrollment.	No. of Pupils Within $\frac{1}{4}$ -Mile Walking Distance.	Area in Square Feet.	Square Feet Per Pupil.	No. of Square Feet $\frac{1}{4}$ -Mile Walking Distance.	Location and Remarks.
David Lloyd George	5.23	657	155	189,000	288	1,219	Cartier-67th Ave.
Fdith Cavell	2.92	357	202	113,000	317	559	Ash-20th Ave.
Kerrisdale	9.00	783	210	326,000	416	1,552	Carnarvon-41st Ave.
Langara	4.50	420	234	172,000	409	735	Crown-14th Ave.
Lord Kitchener	4.40	573	192	168,600	294	878	Blenheim-25th Ave.
Magee	4.49	677	226	165,000	244	730	Maple-49th Ave.
Oak Street	4.55	178	102	133,000	747	1,304	Oak-25th Ave.
Prince of Wales	6.00	426	142	241,000	566	1,700	Marguerite-25th Ave.
Queen Mary	6.26	591	144	113,000	191	785	Trimble-5th Ave.
Quilchena	4.00	285	97	115,000	400	1,186	Maple-37th Ave.
	51.35	4,947	1,704	1,735,600	349	1,018	

G R E A T E R VANCOUVER BRITISH COLUMBIA







VANCOUVER
TOWN PLANNING COMMISSION

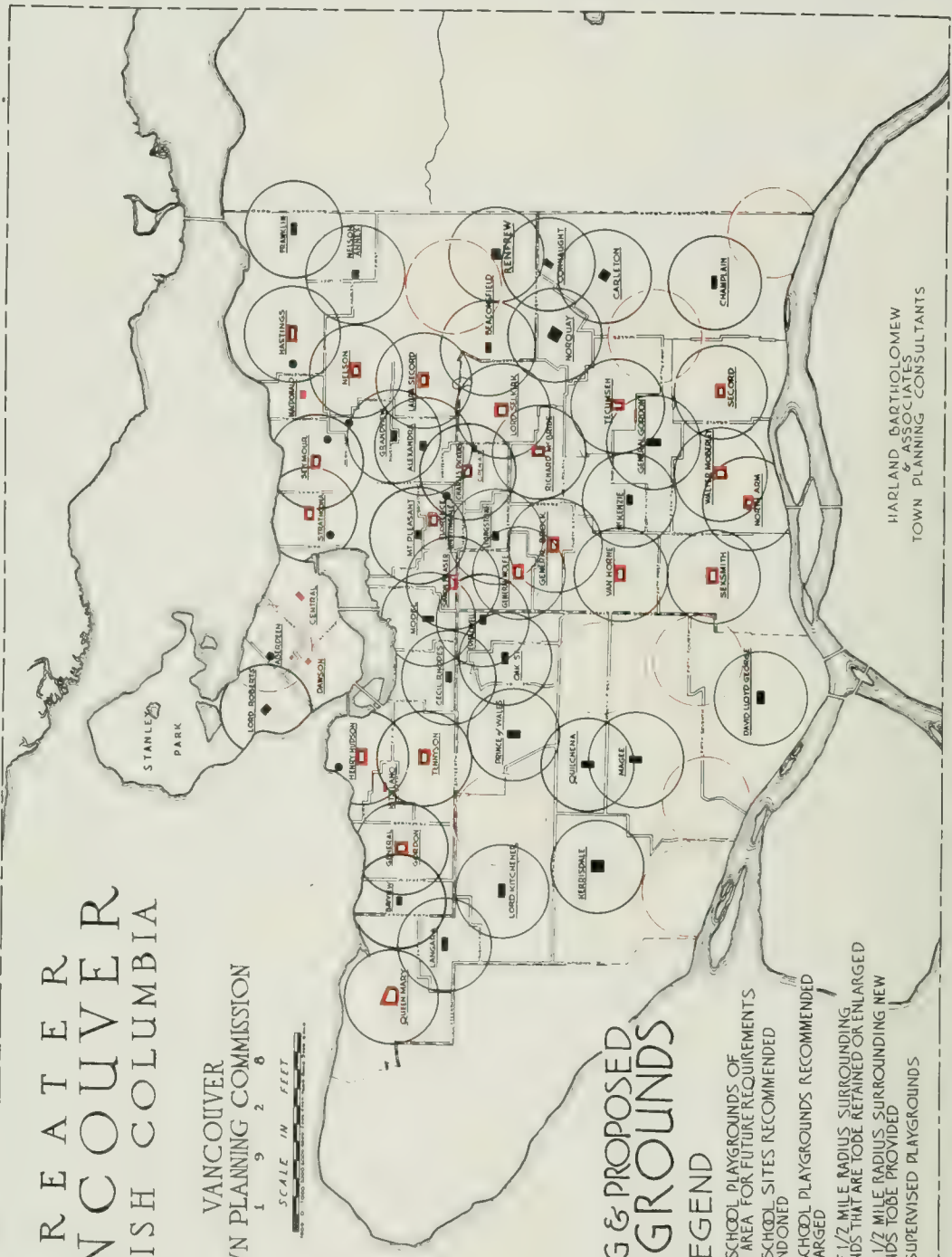
1 5 2 6
SCALE IN FEET



EXISTING & PROPOSED PLAYGROUNDS

LEGEND

-  EXISTING SCHOOL PLAYGROUNDS OF ADEQUATE AREA FOR FUTURE REQUIREMENTS
-  EXISTING SCHOOL SITES RECOMMENDED TO BE ABANDONED
-  EXISTING SCHOOL PLAYGROUNDS RECOMMENDED TO BE ENLARGED
-  CIRCLE OF 1/2 MILE RADIUS SURROUNDING PLAYGROUNDS THAT ARE TO BE RETAINED OR ENLARGED
-  CIRCLE OF 1/2 MILE RADIUS SURROUNDING NEW PLAYGROUNDS TO BE PROVIDED
-  EXISTING SUPERVISED PLAYGROUNDS



HARLAND BARTHOLOMEW
& ASSOCIATES
TOWN PLANNING CONSULTANTS

Plate 44 illustrates the distribution of existing schools and playgrounds. Except as influenced by topographical conditions, it would have been desirable economically and otherwise for the schools to be spaced one mile apart.

When the school sites already proposed are developed there will be required further new sites as shown on the Plate. These have been located according to the standards set up in this report.

It is unfortunate that so many sites have been located on what are, or what are planned to be, major streets. Theoretically, the school might be located in the centre of the rectangle formed by the intersection of major streets. It should be borne in mind for future locations that major streets are not desirable neighbours for school sites. Proposed zoning regulations assist by requiring service stations or garages to be not nearer than 200 feet from the entrance of a school.

There are several school sites that might be abandoned with advantage in the future. The site at the corner of Broadway and Granville, a busy major street intersection, now used as a Commercial High School, is not a suitable site for a school and is retarding desirable business development. The Aberdeen School is quite inadequate as regards playground area and is located on a major thoroughfare on which commercial development may be expected in the immediate future.

The following schools are on major streets and in business districts. The schools marked by an asterisk are at present inadequately provided with playground area. Those suggested for abandonment are underlined, though Central School should be retained for some time.

VANCOUVER PUBLIC: Aberdeen*, Central, Dawson*, Kitsilano, MacDonald*, Mount Pleasant, Strathcona*.

VANCOUVER HIGH: Britannia Annex, Fairview, King George.

SOUTH VANCOUVER PUBLIC: General Brock, Sir Guy Carleton, Alexander McKenzie, North Arm, Secord.

POINT GREY PUBLIC: Oak Street.

In the order of urgency, the programme of school playground development should be as follows (see Plate 44):

Enlarge Strathcona School Grounds.
Enlarge Hastings School Grounds.
Enlarge Florence Nightingale School Grounds.
Enlarge Lord Nelson School Grounds.
Enlarge Lord Tennyson School Grounds.
Enlarge General Gordon School Grounds.

Construct new school in West End district.
Abandon Aberdeen School.
Abandon Dawson School.

Enlarge Simon Fraser School Grounds.
Enlarge Seymour School Grounds.
Abandon MacDonald School.

Enlarge Laura Secord School Grounds.

Construct new school in Hastings Townsite.

Abandon Kitsilano School Grounds.

Enlarge Henry Hudson School Grounds.

Enlarge Charles Dickens School Grounds.

And proceed generally with indicated programme for South Vancouver and Point Grey districts.

Existing development of adjoining properties may render the carrying out of some of these recommendations impossible of achievement. In such cases consideration must be given to increasing the play areas by the reconstruction of school buildings and elimination of subsidiary structures.

(Plate 45).

The youth of the city require playfields and athletic grounds. Those who are in school find adequate grounds adjacent the school for such uses. Junior High School sites should not be less than 15 acres in total area, and Senior High School sites from 15 to 25 acres. Such space is needed to accommodate the ultimate school buildings and a properly proportioned playfield.

On the accompanying map there is shown the location of high schools and existing playfields. At some of the high schools adequate playfields are provided. A list of high schools and playfields with play areas is as follows:

VANCOUVER HIGH SCHOOLS AND PLAYFIELDS

Schools.	Area in Acres.	Total Enrollment, Pupils.	Pupils in $\frac{1}{2}$ -mile Walking Distance.	Area of Playfield.	Square Feet Per Pupil.	Square Feet Per Pupil, $\frac{1}{2}$ -mile.	Square Feet of Total Area Per Pupil.	Location.
Kitsilano High and Junior High	6.62	1,284	320	101,727	79	318	1,429	Trafalgar-10th.
Connaught (Playfield)	15.54		224	675,935				Larch-10th.
King Edward High and Junior High	6.97	864	193	178,146	296	923		Oak-12th.
King George*		399	196					Nelson-Burrard.
Cambie (Playfield)	3.00		85	130,680			1,537	Cambie-Dunsmuir.
Brockton Point (Play)	8.5		182	370,260				Stanley Park.
Britannia High and Annex	4.33	863	182	67,956	79	373		Parker-Cotton.
Templeton High.	2.09	886	252					Georgia-Templeton.
Hastings Park (Play)	13.13		36	571,000			15,861	Hastings-Renfrew.
Widmerere (Playfield)	3.2		126	139,392			1,106	Hastings-Widmerere.
Clark Park (Playfield)	7.0		178	304,920			1,714	Clark-16th Ave.
Renfrew	11.25		20	490,050			24,502	16th-Slocan.
	81.63	1,812	3,030,666					

*See Public Schools.

POINT GREY HIGH SCHOOLS AND PLAYFIELDS

Schools.	Area in Acres.	Total Enrollment.	Pupils in $\frac{1}{2}$ -mile Walking Distance.	Area in Playfield.	Square Feet Per Pupil.	Square Feet Per Pupil Within $\frac{1}{2}$ -mile Walking Distance.	Remarks
Lord Byng	4.48	304	83	178,000	585	2,144	16th and Wallace.
Memorial Park	18.53		85	807,167			22nd and Dunbar.
Prince of Wales	6.00	221	112	241,000			25th-Marguerite.
King George V.	5.95	677	194	199,000	294	1,026	49th-Maple.
Kerrisdale Park	3.8		142	165,528			41st-Larch.
Douglas	13.16		90	573,250			20th-Laurel.

SOUTH VANCOUVER HIGH SCHOOLS AND PLAYFIELDS

John Oliver	4.30	902	92	158,632	176	1,724	43rd near Fraser.
Memorial	33.50		41	1,459,260			43rd-Ross.



*Tatlow Park, Vancouver.
A Good Example of Neighbourhood Park Development.*

In the order of urgency, the programme of high school and playfield development should be as follows (see Plate 45, page 194):

- Abandon Britannia High School Annex.
- Enlarge Templeton Junior High School Grounds.
- Enlarge Clark Park.
- Abandon Fairview School.
- Enlarge John Oliver High School Grounds.
- Enlarge Lord Byng High School Grounds.
- Enlarge Kerrisdale Park.
- Enlarge Renfrew Grounds.
- Abandon King George High School.

and, if retained, Cambie Street Grounds require enlargement.

Additional playfields are required, as shown on the map, to serve areas of from a mile to one and a-half miles from each playfield.

For the youth of the city who no longer are in school, and for active adults, there are needed many athletic areas in public parks. Vancouver has many small parks which have a playfield character, or may be developed as such, but the proper unit for these facilities is the neighbourhood park.

EXISTING AND PROPOSED NEIGHBOURHOOD PARKS.

A neighbourhood park of 20 to 30 acres, when properly laid out and improved, will offer recreation opportunities to everyone living within walking distance, that is, within a distance of half a mile. It should be, first of all, a park, not a barren sports field. It should contain woodland areas, lawns, gardens, shelters, concert courts, lakes, fountains and other features commonly found in a park. There will be secluded spaces for the play of children and open fields within the park for the more boisterous games and sports. The portions of the park devoted to active recreation may have an aggregate area of from 7 to 12 acres. Rarely is more space needed if there is one such park serving every square mile of residential territory. The remaining 13 to 18 acres should be used for landscape effects and the preservation of the park-like character of the unit. Experience has shown that one neighbourhood park area of 20 or 30 acres can be brought to a degree of efficiency and serviceability far exceeding that of four or five areas of five acres each.

Plate 46 shows all areas which may reasonably be classified as neighbourhood parks, whether developed or not. The district served by each is also indicated. Of all the existing parks of this type, only a few can be pointed to as indicating the general nature of such units of the system. There is not yet a complete well-developed neighbourhood park in all Vancouver. Several areas will in future years lend themselves well to this type of improvement. Tatlow Park has some of the qualities desired in a neighbourhood park, although the area is small. Maple Grove Park in Point Grey is also noteworthy, but suffers from lack of a well-considered landscape plan.

Vancouver does not yet appreciate the services of the landscape architect or attach proper value to his planning services. He is concerned primarily with the problem of fitting the land to human use and enjoyment and his work is well-nigh indispensable in giving park lands their maximum utility, whether in the production of pleasure and happiness through sheer beauty or through facilities for active play and recreation. The park lands of Vancouver would all produce greater returns upon the investment made in them if they were developed through the joint co-operative services of landscape architect, engineer and gardener. The problem of making a neighbourhood park render efficient all-year service to all ages and classes is not merely a matter of constructing walks that are durable, pools that do not leak or of planting trees and shrubs that will surely grow. The basic design of the area, the proper fitting together of its parts, are all important as the first steps after the site has been reserved.

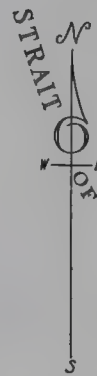


The Wading Pool, Maple Grove Park

The specific proposals for new neighbourhood park acquisitions and enlargement of certain existing sites are shown on Plate 46, insert.

G R E A T E R V A N C O U V E R B R I T I S H C O L U M B I A

VANCOUVER
TOWN PLANNING COMMISSION
1 9 2 8



EXISTING & PROPOSED NEIGHBOURHOOD PARKS

LEGEND

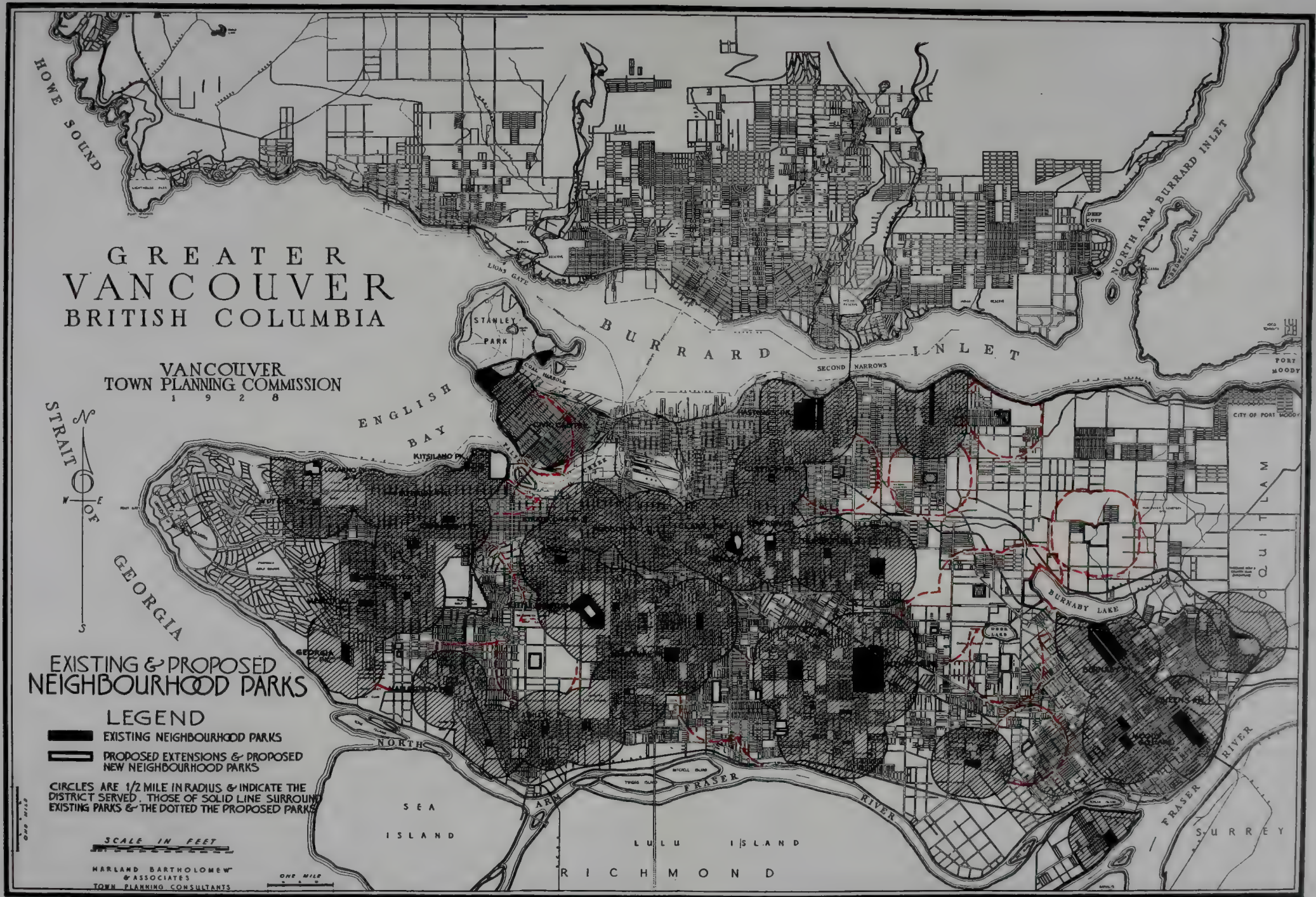
-  EXISTING NEIGHBOURHOOD PARKS
-  PROPOSED EXTENSIONS & PROPOSED NEW NEIGHBOURHOOD PARKS

CIRCLES ARE 1/2 MILE IN RADIUS & INDICATE THE DISTRICT SERVED. THOSE OF SOLID LINE SURROUND EXISTING PARKS & THE DOTTED THE PROPOSED PARKS

SCALE IN FEET

HARLAND BARTHOLOMEW
& ASSOCIATES
TOWN PLANNING CONSULTANTS

ONE MILE





Bath House, Second Beach

LARGE PARKS AND PLEASURE DRIVES.

(Plate 47, page 200).

Of Stanley Park, Vancouver cannot be too proud—one thousand acres of natural beauty in a wonderful setting. Elbert Hubbard said, "There are parks and parks, but there is no park in the world that will exhaust your stock of adjectives and subdue you into silence like Stanley Park at Vancouver." "In all my travels I have never seen a more unique or attractive park than this," was how Mr. W. E. Curtis, the traveller, summed up his impressions.

Stanley Park each year, however, is becoming more of a responsibility. Its proximity to the central business district, its accessibility, the lack of other parks of comparable attractiveness, all combine to throw an increasingly heavy burden of traffic and use upon it.

The growth of visitors to the Park is shown in the following table:

GROWTH OF VISITORS AND TRAFFIC
IN STANLEY PARK

<i>Year</i>	<i>Persons</i>	<i>Autos</i>	<i>Bicycles</i>	<i>Saddle Horses</i>	<i>Grand Total</i>
1905	14,644	38	821	947	16,470
1911	53,255	1,114	660	1,925	56,954
1913	50,258	1,685	500	955	53,398
1923	117,277	14,164	1,046	177	132,664
1925	166,846	23,731	1,338	294	192,209

This constant increase in use is having the inevitable effect of tending by slow process to destroy the very qualities of the park which give it character. One of the greatest needs of Stanley Park is a carefully studied landscape plan of the entire area and its immediate surroundings, a plan which as far as possible will anticipate all future needs and uses of the park. A plan which can be consistently followed in making improvements, and which, when finally carried out, will give Vancouver a park which thereafter will require only minor changes and annual maintenance. Until such a plan is prepared, the park will continue to sink below its possibilities and become more and more unsatisfactory.

The utilization of the Park as a site for zoos, gardens, yacht clubs, fountains, monuments, playgrounds and other features requires careful consideration. As long as development is haphazard, the park will never have that unity of character or that simple and orderly arrangement which that magnificent creation of nature, the great forest, demands.

Vancouver needs several additional large parks to divide interest with Stanley Park, to lessen the decorating, cultivating and furnishing which goes on in it now. Several large park sites having remarkable possibilities are available. These all should be made part of a park system in scale with the metropolis to be.

Central Park is well located and has an area of some 225 acres. There are many large trees but no interesting change in levels, nor is it near any body of water.

There should be a large park provided at Burnaby Mountain, as shown on the accompanying plate. An area here might be reserved of some 1,300 acres, as the lands are largely publicly owned and are too steep for economic residential development. Such a park would undoubtedly add to the value of homes on the southern slopes and can be made to fit into a scheme of development for that area. Burnaby Mountain at its summit is the highest point in the Vancouver area, and from this point can be obtained an unrivalled panorama of the North Shore mountains, the harbour and the city itself.

The Musqueam Indian Reserve provides an important and well-located site, comprising 392.5 acres, for a large park on the flats of the North Arm of the Fraser River.

The Kitsilano Reserve, though only some 80 acres, is a very important part of the proposed park system, and the following report was made on this property:

"It is quite certain that future studies of the recreation needs of Greater Vancouver will confirm my present belief that all, or practically all, the Kitsilano area will be required as a park. Present studies of the Civic Centre project, the alignment of the proposed Burrard Street Bridge, and the treatment of the waterfront of the city indicate clearly the necessity of retaining public ownership and control of the tract. It would be a mistake indeed for the Town Planning Commission to allow the impression to get abroad that the Indian Reserve Lands have little or no value except for private, industrial or residential use. It would be a serious error of judgment for the present municipal officials of Vancouver to permit these lands to pass out of public hands in the belief that the people have no interest in them or that their best interests will be served by the sale of the lands."

"The public interest in the Reserve was first expressed when the area was set aside for the use and benefit of Indians resident in British Columbia. The Government was willing in those early days to set the tract apart from others because it was interested in the welfare of these first inhabitants of the province. The purpose was laudable whilst the Indians used the land."

"But now they have gone and the parcel is virtually a waste space. All around it, however, is a growing population. Those who live in the vicinity of the Reserve now are those who are creating the Greater Vancouver, who are making the present day province. Can it be that neither the Dominion nor Provincial Governments have any interest in these people? It is difficult to believe that the citizens of Vancouver will be denied consideration if they ask for it. The Planning Commission must take the lead in pointing out the great possibilities and potential usefulness of the Reserve lands."

"It may be well to set forth a few of the services which this area might render if properly developed as a public park. First, with reference to a possible Civic Centre, control of the opposite bank of False Creek is absolutely essential. One great advantage of the Burrard Site over all others suggested is its position on the water. There is no better view of a magnificent building group than across a stretch of water. Park area on the south end of Burrard Street Bridge would give the bridge a setting and a right-of-way and provide a standpoint from which the Civic Centre could be seen to greatest advantage. As a matter of fact, it will be impossible to devise a Civic Centre composition reflecting the future greatness of Vancouver without assuming that the Reserve will remain in public hands and be used as a park foreground of the centre."



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An Aerial View of the Kitsilano Reserve.

"A park here will become in actuality a most useful element in the intown recreation system. It will serve purposes which otherwise will have to be accommodated in Stanley Park, to the increasing detriment of the latter. The inroads upon the priceless natural assets of Stanley Park have already gone far enough and the only way this slow process of cultivation can be stopped is by provision of supplementary park areas. The Reserve should carry the tennis courts, baseball fields and other recreational facilities needed by a dense population.

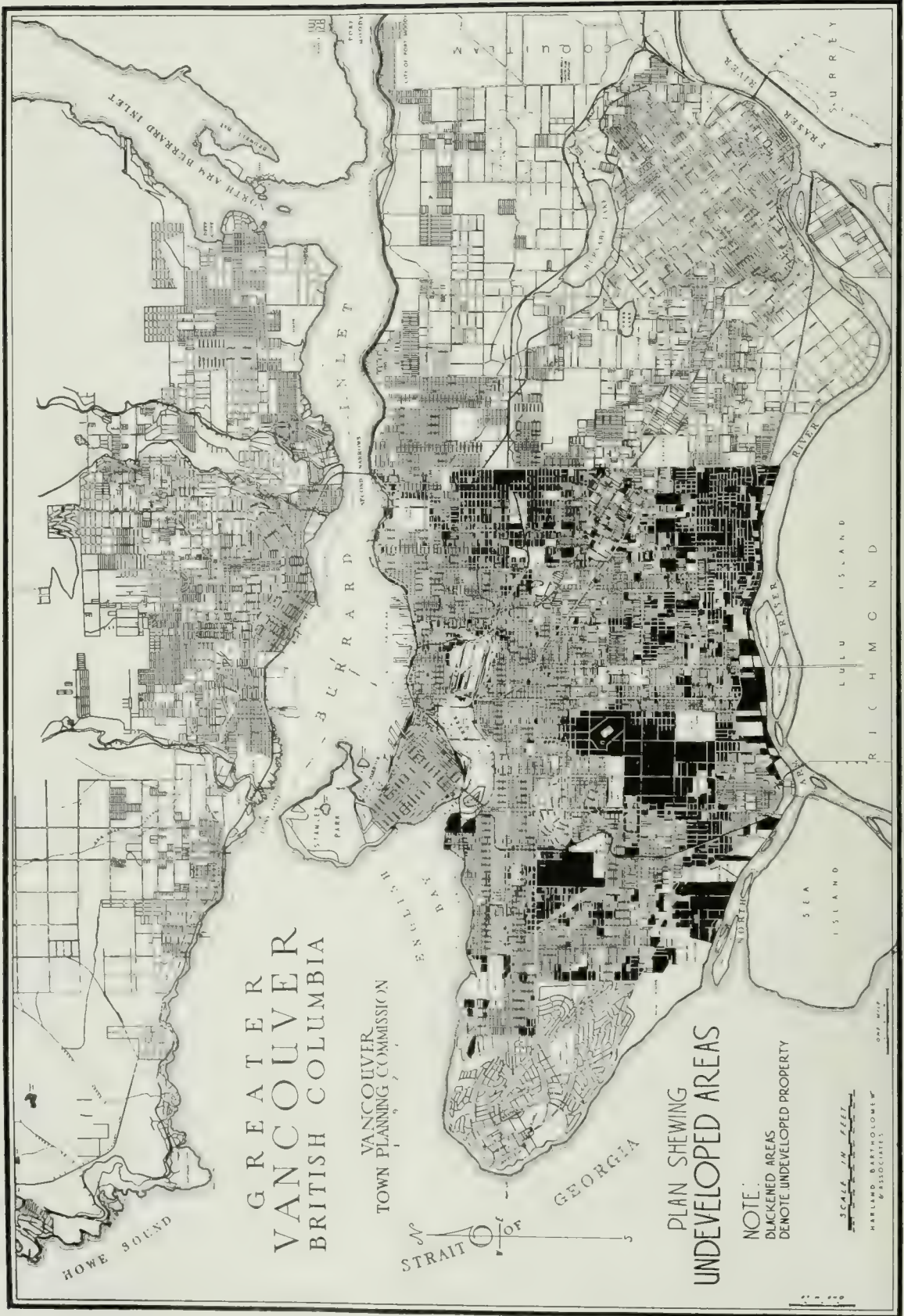
"It must not be forgotten that the Reserve will have surrounding it in future years the most concentrated population of the metropolitan area. If the Reserve is sacrificed, this population will find no area of equal adequacy or convenience, and certainly not one so available as the Reserve is today."

"The Town Planning Commission is under obligation to state the case for those who are to follow. It knows from its studies that thousands and thousands will live in apartments, hotels and closely packed dwellings in the vicinity of the Reserve in future years. It knows that their recreation needs will be far greater than is the case in these districts now.

"It is a stroke of fortune truly that the Reserve has come down to the present time in public ownership. If the case were otherwise, not so much could be said. But, since matters stand as they are, it would seem most unfortunate if a way cannot be found for the transference of title to this property, so that it may continue to be of service to the people of all Vancouver and the province. There may be difficulties in the way of rights-of-way and existing leases, but these are not insurmountable obstacles. They can be resolved in time. Perhaps it may take twenty-five years to clear up all matters at issue regarding use of the lands. What is twenty-five years in the life time of a great city? It is of the utmost importance to get started toward the ultimate objective. If the people of Vancouver want this park, they can have it."

The efforts of the Commission since the foregoing was written are highly commendable. Mr. W. A. Clark, Chairman of the Committee on Kitsilano Reserve Lands, has been indefatigable in correspondence and conference with Federal and Provincial officials, and it may be said that the danger of industrialization of this Reserve is, as a consequence, very remote and its eventual use for park purposes practically assured if the efforts of the Commission and the city are continued.

Each of the proposed park areas lends itself to some special service. Burnaby Mountain, a forest reserve, in a sense another Stanley Park, an outlook point of great value, a great natural park; Burnaby Lake a game refuge, an aquatic park, perhaps a botanical garden, Kitsilano, a sports area with a great municipal stadium, numbers of tennis courts and other facilities; Deer Lake might be made a zoological park, permitting the removal of the animals from Stanley Park, where they are offensive and objectionable, to a site that can be properly prepared for them and be progressively developed to house the foremost animal collection in Canada. Musqueam Reserve as a sports area and scenic park, differing from the rest as its natural topography differs; the other areas as picnic parks, gardens, woodlands, golf courses and whatever uses the land may suggest.



UNDEVELOPED AREAS.

(Plate 48).

The accompanying Plate shows the very large areas that are still undeveloped, especially in Point Grey and South Vancouver districts.

It cannot, therefore, be claimed that development has proceeded to an extent that makes the acquisition of new park sites a very expensive matter. Reference was made to the high cost per acre of parks acquired in the City of Vancouver between 1902 and 1912. Future parks need cost but very little if proper steps are taken now for their acquisition, especially in view of the fact that many acres of undeveloped areas in Vancouver, South Vancouver and Point Grey are publicly held.

BEACH AND SHORE DEVELOPMENT.

The recreational waterfront of Vancouver is as closely linked with the progress and development of the city as the harbour and commercial waterfrontage. In the general town planning scheme it is essential to set up a proper balance in the use of the shore line and beaches of the city. By far the greater part of the shores of Burrard Inlet must be reserved for industry and commerce. This use is wholly logical. The shores of Stanley Park are definitely reserved as part of the marine landscape and their use for this purpose has given the city distinction and character. The shores of English Bay are in a transition stage. The lands along the water are largely in private hands, but few improvements exist upon them to fix their character definitely or to raise prices to exorbitant levels.

Of the total English Bay waterfrontage, from Stanley Park to Burrard Street, on the north side, and from the B.C. Electric trestle to the University Lands, on the south, a total of 5.4 miles, the ownerships are as follows: Public, 1.6 miles; private, 3.8 miles.

This shows only 30 per cent. of the frontage now under public control. The entire shore line should be a public possession, and, as may be seen in plate 47, page 200, a pleasure drive should follow it throughout. There are few cities indeed which have such an opportunity as now lies before Vancouver, to save its foreshore for recreation and scenic purposes without handicapping shipping or industry. Chicago is paying princely sums to recover waterfrontage such as Vancouver can have at small cost by timely action. There is no question as to the propriety of using the shores of English Bay for purposes other than those commonly known as utilitarian. The service of each foot of these beaches in producing wholesome pleasure and sound bodies for thousands every year is just as important and as vital to the welfare of the city as if these same stretches of shore were occupied by smoking factories or busy wharves and docks. Who will say, as long as there is a proper balance of these land uses and no interference, that one use is more important than another? An exhaustive survey of industrial sites appears in the transportation report and indicates no shortage of usable waterfrontage for the bread-and-butter activities of the city of the future.



English Bay Bathing Beach.

In the final development of the public shores of both the Inlet and the Bay, it is believed that the following general plans should be followed:

1. Coal Harbour should be cleaned up. An effort should be made to secure a complete reconstruction of the street frontage along Georgia Street from Cardero or the intersection of Georgia and Pender Streets to the park. The city, the Canadian Pacific Railway or private capital should be interested in rebuilding the structures which serve the waterfront here, doing away with small, nondescript, single buildings and replacing them with well-designed, permanent structures.
2. From the Arena west the waterfront should be reclaimed and a sea wall built along this section, terminating in a filled recreation pier running out toward the channel from the Arena and terminating in a bastion. This wide filled pier with planting on it, and perhaps a covered promenade, would shut off the view of the remainder of the Coal Harbour waterfront from the park entrance.
3. Deadman's Island should be reclaimed and consolidated with the park, perhaps being made the home of the yacht clubs which now, from a landscape standpoint, seem to be poorly located along the shores of the park.
4. Considerable revision of drives, parking spaces and promenades is desirable all around the park, especially in the vicinity of second beach, but these are matters to be taken up in the preparation of a general development plan for the park.
5. Vacant property on the north shore of English Bay should be acquired as fast as funds permit. This is where there is now the greatest danger of development which will set the city back twenty years in its plan to control this waterfrontage.
6. The planning of Kitsilano Reserve waterfrontage should be co-ordinated with the Civic Centre plans on the opposite shore.
7. The two blocks between Arbutus and Yew Streets and north of Cornwall should be acquired at an early date to round out Kitsilano Beach Park.
8. All vacant lands lying between Point Grey Road and the foreshore east of Alma Road should be purchased. The improved parcels can be acquired later as the dwellings become obsolete.



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*Aerial View of the English Bay Foreshore,
Recommended as a Marine Drive Promenade.*

9. All the land lying between Marine Drive and the water should be placed under municipal or local government control. Vista lines through the trees need to be opened. The whole drive shows the need of a more definite and fixed policy with respect to its maintenance and development. The signs on trees and poorly maintained outlook points are evidence of this. There are inadequate guarantees now against the further invasion of this area by tea houses, filling stations, camps and dwellings. All these interests should be on the opposite side of the drive.

PLEASURE DRIVES.

The growing use of the automobile is focusing the attention of cities more and more upon the need of a system of parkways and formal boulevards.

The motor car is a pleasure-giving device of extraordinary value. In every month there are millions of hours spent by people of all classes, just riding, riding for pleasure. There is fascination in a changing picture such as one gets from the window of a smooth-running motor car. The same thousands who provide daily support for the motion pictures are equally devoted to riding in leisure hours here and there in an automobile. Few families today are without a car, and, regardless of economic conditions, they manage to ride.

This riding, however, is rarely aimless. There is generally a desire to go over some particular route or to some special objectives. The parks in Vancouver, the University, Grouse Mountain are such objectives. The principal pleasure routes are Marine Drive, Douglas Road, Kingsway and the routes through Stanley Park. Marine Drive is one of the outstanding features of the region, a pleasure route of which all Canada can rightly be proud. As time goes on, it can be made second to none on the continent.

Vancouver lacks, however, a continuous chain of pleasure drives developed for the primary purpose of accommodating the increasing thousands of vehicles driven for pleasure. It is time the city considered giving those who find great enjoyment in these leisure-time and holiday tours a special route touching many of the larger parks and having qualities not possessed by ordinary city streets. The basic framework of such a system is already available. With little effort, except consistent progressive execution of a general plan, the city can secure many miles of pleasure drives of great merit.

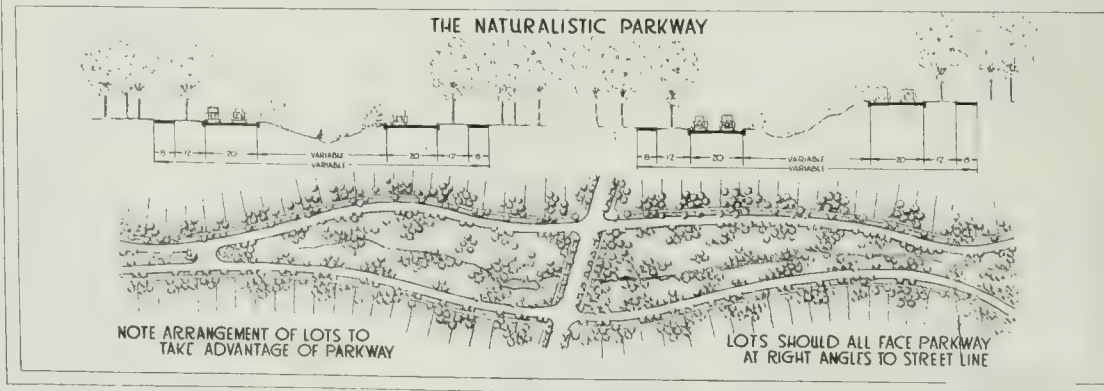
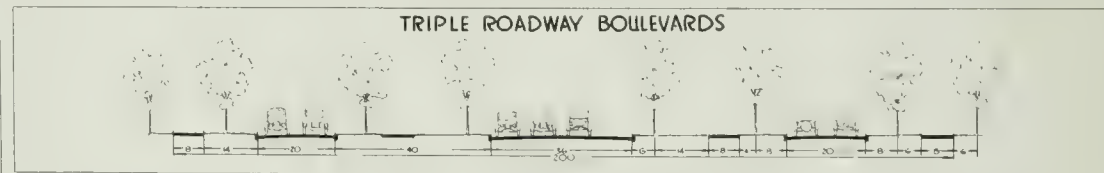
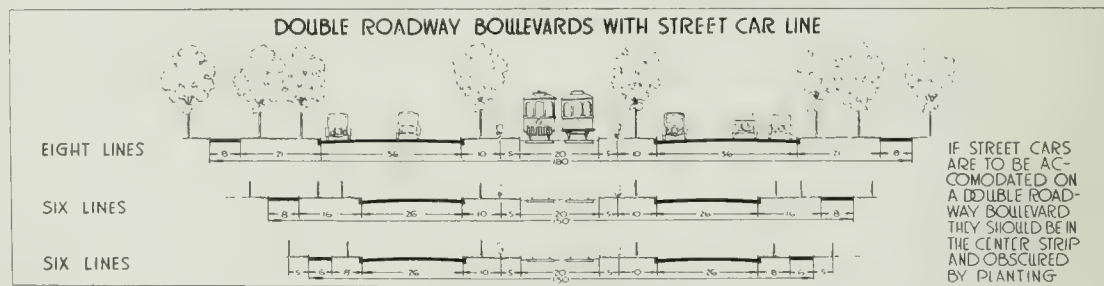
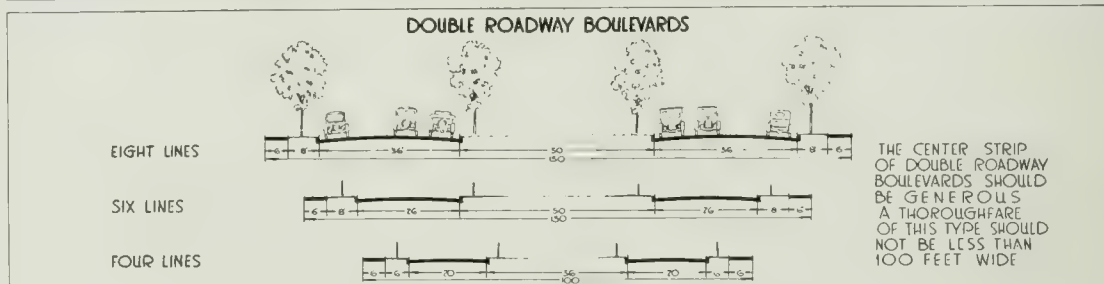
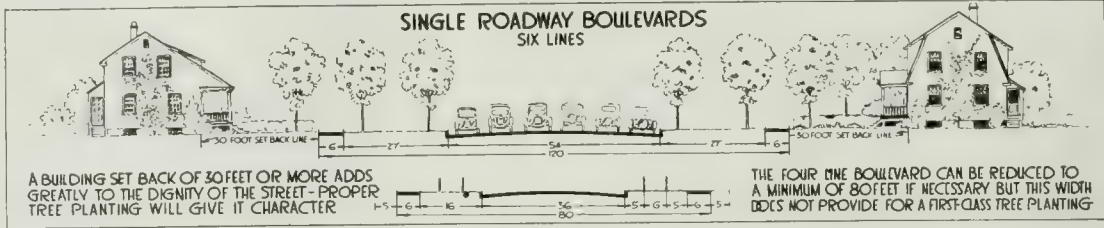
The routes proposed are shown upon Plate 47, page 200. Briefly, the routes may be analyzed as follows:

1. Around the City Boulevard, commencing at Granville and Georgia, thence over Georgia to Stanley Park, around the water's edge, along English Bay, across False Creek by a new Burrard Street Bridge, along the south shore of the Bay (all structures between drive and waterfront to be cleaned out in time), around the Marine Drive to New Westminster, across to Burnaby Mountain, and along the shores of the Inlet to Hastings Park, from which point the major street system will serve to carry one back into the business district.
2. A CENTRAL PARKWAY along a route bisecting the city longitudinally, from the University via 25th Avenue (132 feet wide) to Trout Lake, thence along Still Creek to and around Burnaby Lake and via a parkway of varying width along the Brunette River to New Westminster.
3. CROSS CITY BOULEVARDS.
 - (a) From the shores of English Bay via Waterloo Street and the replotted lands in Point Grey and Yew Street to Marine Drive.
 - (b) From the intersection of Granville and Georgia via Cambie Street south to Little Mountain Park, thence southerly through the at present unsubdivided C.P.R. Lands to Ash Street and Marine Drive.
 - (c) Follows Victoria Drive from Burrard Inlet in a southerly direction to connect with the Central Parkway at Trout Lake.

SCALE OF CROSS SECTIONS
 0 5 10 15 20 25 30
 ONE INCH EQUALS TEN FEET
 1922

SUGGESTED CROSS SECTIONS OF PLEASURE DRIVES - VANCOUVER - B. C. -

HARLAND BARTHOLOMEW
 CITY PLAN ENGINEER



- (d) Follows Boundary Road from Burrard Inlet to Marine Drive.
- (e) From Burnaby Lake, around the easterly shores of Deer Lake to Roberts Street, thence southerly along Roberts to Marine Drive.

TYPES OF PLEASURE WAYS AND MINIMUM STANDARDS.

A distinction is made between Boulevards and Parkways. The former are generally considered as straight, uniformly planted, formal thoroughfares, the latter informal, irregular, meandering drives of varying width.

ROADWAY IN CENTRE—NO STREET CARS.

The minimum should be a four-line vehicular roadway, 36 feet. Two rows of trees in each side parking. Building set back 30 feet. Minimum width, 80 feet.

DOUBLE ROADWAY—NO STREET CARS.

The minimum can be a two-line roadway each side, 20 and 20, total 40 feet. Centre parking not much less than the total width of roadway, say 36 feet. One row trees in each wide parking. Minimum width 100 feet. This type can be converted into a six-line thoroughfare when right-of-way is 120 feet or more, by widening each two-line roadway 6 feet, the widening to be from the side parking. A four-line roadway on each side of a centre parking requires a minimum width of 150 feet.

DOUBLE ROADWAY—DOUBLE CAR LINE.

For cars, 20 feet. Planting, either side tracks, minimum 6 feet, total 52 feet. Three-line roadway each side, 26 and 26, total 52 feet. Double row trees in parking. Minimum width 110 feet.

TRIPLE ROADWAY.

Centre roadway, 4 lines, 36 feet. Double row trees each side, 80 feet. Side roadways, 2 lines each, minimum 40 feet. Minimum over all width 200 feet.

These are in no sense invariable proposals. A closer study of existing conditions at the time of making detailed plans may occasionally suggest modification of proportions and general treatment.

SWIMMING POOLS AND TANKS.

It would seem like carrying coals to Newcastle to urge the necessity of swimming baths and tanks in Vancouver, yet there is a need for such facilities, a need which is also urged by Mr. J. Munro, President of the Canadian Amateur Swimming Association (B.C. Section). They have value, not only for winter use, but experience has shown that many of these swimming pools are used more in summer than in winter. For indoor pools it is recommended that there should be two small units, rather than one large unit, so that accommodation is always available to the general public should one of the tanks be in use for some special event. Swimming tanks are of especial value in schools.

Vancouver at present has several privately owned tanks, such as those at the Y.M.C.A., Chalmers' Church, Canadian Memorial Church and the old Vancouver Athletic Club.

By way of comparison, it may be pointed out that in Victoria there are three tanks, all bigger than any in Vancouver, of 60, 85 and 150 feet in length respectively.

Some of the sites suggested are opposite the C.N.R. depot on city-owned property (salt water). Hastings Park and Stanley Park at Lost Lagoon. Other sites, more central, have been mentioned, but on account of their cost the property would be difficult to acquire. The whole matter is undoubtedly one for serious consideration. Mr. Munro suggests a recreation committee of the Council in conference with the various authorities concerned.

MOUNTAIN PARKS.

In addition to the large park units noted above, Vancouver must consider among its park assets the mountain areas nearby.

This city is rich indeed in having at its threshold, in the heights on the north shore of Burrard Inlet, an Alpine playground, and the importance of retaining these areas unspoiled, in all their natural grandeur, cannot be too strongly stressed. Here, within easy reach of the city, are unexcelled facilities for the enjoyment of winter sports, alpine climbing, hiking, etc. There is also Mount Garibaldi, to which a motor road must soon be built; the upper reaches of the North Arm, and other mountain playgrounds accessible to thousands in the city. These not distant retreats have great value in the park scheme, for they supply recreation opportunities which cannot be maintained in areas within the city. They offer peace and quiet, clear air and contacts with nature unadorned. The people of Vancouver are fortunate indeed to have park areas close at hand which can render such highly valuable service.

It is on the North Shore, too, that Vancouver obtains its water supply, and, in order to ensure absolute freedom from contamination, the watersheds above the intakes are necessarily inviolate and closed to the public, except under special conditions.

It is recommended that, when the Water Board has finally decided upon the areas required in order to supply the future city, steps be taken to protect those areas not so required for the citizens. Hollyburn Ridge, Lynn Valley and the slopes of the ridges along the west side of the North Arm particularly lend themselves for retention for this purpose.

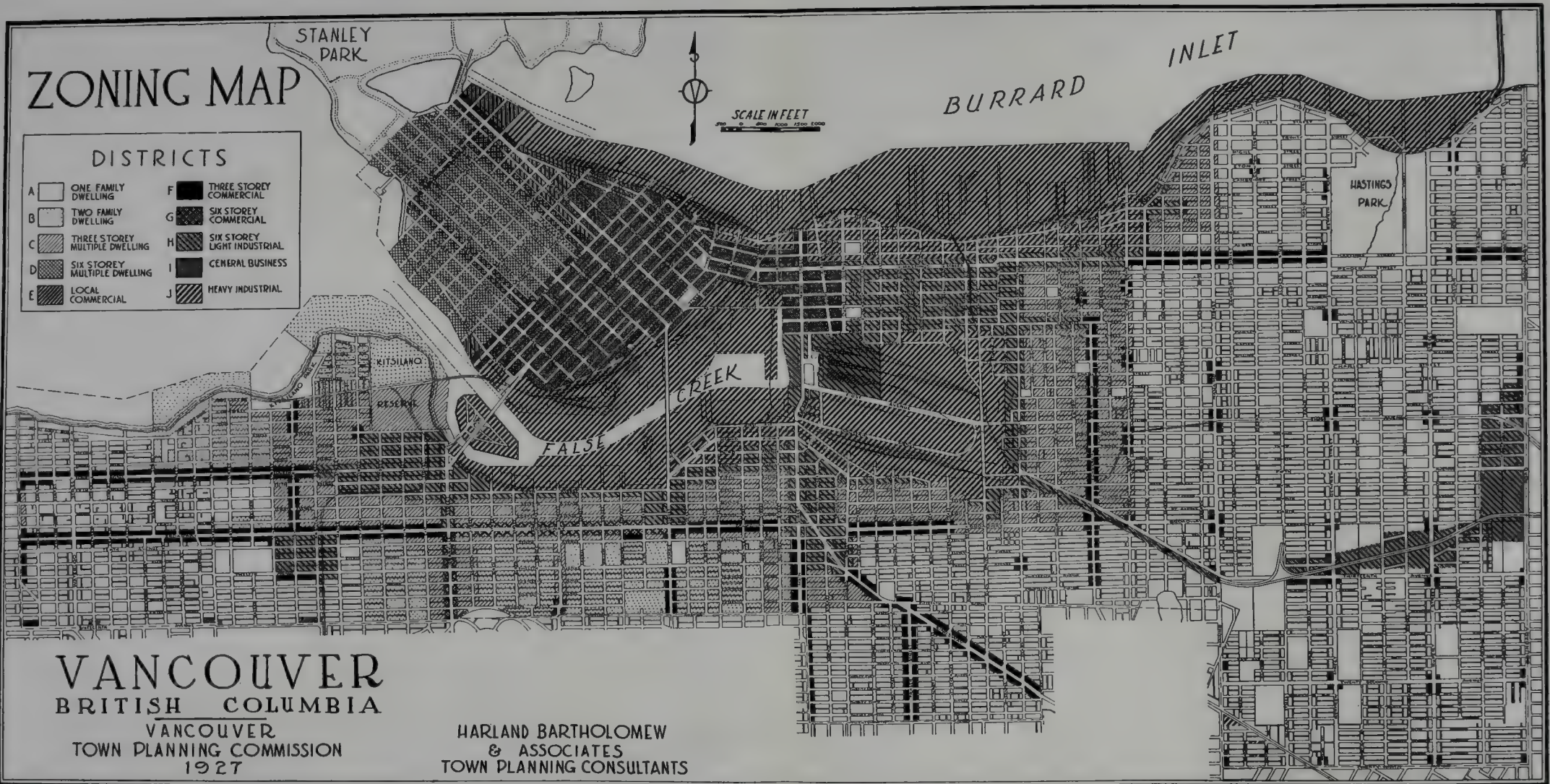
CONCLUSION.

In conclusion, it may be said again that this whole system of parks and recreation grounds is planned to reach every age group in every portion of the city. Those who find great satisfaction and mental refreshment in the contemplation of natural landscape features will have scenic drives, woodlands, lakes and water courses preserved for them. Those who enjoy gardens and promenades will find their desires satisfied in neighbourhood parks and squares. The pleasures of motoring on Sundays and holidays will be gratified on long, well-planted and developed parkways and boulevards touching, at intervals, parks of different types. The golfers, cricket and ball players and athletes will meet on easily accessible grounds set aside for these uses. The children of every school district will find grounds of their own close at hand upon which they can play in safety. A city of a million inhabitants with such a system of public grounds provided for the use of the people would be a healthy city, a happy city, one in which people would be proud to live. The cost of securing all these things, if spread wisely over a period of ten or twenty years, would scarcely be felt and would not bear comparison with the benefits and advantages accruing to the city.

ZONING MAP

DISTRICTS

- | | | | |
|---|--------------------------------|---|-----------------------------|
| A | ONE FAMILY DWELLING | F | THREE STOREY COMMERCIAL |
| B | TWO FAMILY DWELLING | G | SIX STOREY COMMERCIAL |
| C | THREE STOREY MULTIPLE DWELLING | H | SIX STOREY LIGHT INDUSTRIAL |
| D | SIX STOREY MULTIPLE DWELLING | I | GENERAL BUSINESS |
| E | LOCAL COMMERCIAL | J | HEAVY INDUSTRIAL |



VANCOUVER
BRITISH COLUMBIA

VANCOUVER
TOWN PLANNING COMMISSION
1927

HARLAND BARTHOLOMEW
& ASSOCIATES
TOWN PLANNING CONSULTANTS

ZONING

INTRODUCTION.

It is probably true that no city has ever launched a Town Planning Programme realizing to the full all the advantages to be gained thereby. As a rule there are one or more compelling factors that emphasize to some of the citizens the need for some phase of Town Planning. In the case of the rapidly growing City of Vancouver, building difficulties, which frequently tended to become a "storm centre of conflicting opinion and personal animosities," beset the Council. The solution of these difficulties lay in the adoption of a modern zoning by-law, the preparation of which involves the study of those different phases of a city's growth, which, in combination, make up the city plan.

When consultants were engaged by the Town Planning Commission, they were asked to prepare, as a first step, a zoning by-law. This was shown to be impossible if the by-law were to be of real future usefulness. Time was required for such a measure to be prepared. As a temporary solution of the problem, and largely to prevent the intrusion of apartment houses in single or two-family residential areas, an interim zoning by-law was prepared and approved by the Town Planning Commission, recommended to the Council, and became law on 5th February, 1927. Only three kinds of districts were provided for: One and two-family districts, apartment districts and unrestricted districts. In the first two mentioned districts, the size of yards was regulated, but no provision was made for restricting building height. In the unrestricted districts no regulations of any kind were prescribed.

And now, after more than two years' study, a comprehensive zoning by-law, co-ordinated with the other phases of the plan, has been approved by the City Council, the by-law being passed December 17th, 1928. (Plate 50, Insert).

It is necessary, in the preparing of a comprehensive zoning by-law, to make, in addition to giving due consideration to the other phases of the city plan, certain studies and investigations, which are peculiar to zoning alone.

On the succeeding pages these studies and the results of the investigations will be briefly summarized.



A Store Intrusion in the West End.

USE MAP.

This map, on which is indicated the use of all land and buildings within the City of Vancouver, represents the result of a careful survey, each and every property being inspected in its preparation.

INDUSTRIAL MAP.

This map indicates the locations of all industries, the railway owned lands and garages and was prepared to facilitate the study of these features.

The information obtained in these two studies has been tabulated, and is as follows:

USE OF BUILDINGS AND LAND IN THE CITY OF VANCOUVER

<i>Use</i>	<i>Number</i>	<i>Acreage</i>	<i>Percentage</i>	<i>Totals</i>
RESIDENTIAL:				
One-Family	23,079	2,200	21.00	
Two-Family	351	36	.30	21.30
Multiple Dwellings....	622	90	.80	.80
COMMERCIAL:				
Hotels.....				
Offices	74	21	.20	
Stores.....	4,425	207	2.00	2.20
INDUSTRIAL:				
Industries, Light.....		130	1.25	
Heavy		140	1.35	
Railway Lands.....		600	5.70	8.30
INSTITUTIONS, PARKS, ETC.				
Private Open Space		23	.20	
Semi-Public Buildings.....		38	.35	
Hospitals.....		28	.25	
Public Buildings.....		10	.10	
Schools.....		91	.80	
Parks		1,380	13.10	
Streets and Lanes.....		3,079	29.20	
Farms and Large Holdings.....		246	2.30	46.30
Unoccupied.....		2,228	21.10	21.10
		10,547	100%	100%

Though compiled in a more general way, these figures for Point Grey may be used for comparison with the foregoing table.

<i>Use</i>	<i>Acreage</i>	<i>Percentage</i>	<i>Totals</i>
OCCUPIED (Mostly Residential).	3,645	39.6	39.6
INSTITUTIONS, PARKS, ETC.			
Musqueam Indian Reserve.....	410	4.5	
Bed of North Arm, Fraser River.....	371	4.0	
Schools.....	26	0.3	
Parks.....	133	1.5	
Streets and Lanes.....	2,100	23.0	
Golf Courses.....	490	5.3	38.6
UNOCCUPIED.	2,007	21.8	21.8
	9,182	100%	100%

HEIGHT MAP.

The Height Map (November, 1927) shows all buildings of three or more storeys in height. There were found to be 839 such buildings, and of these only 353 were in excess of three storeys. An analysis of the latter is as follows:

<i>Storeys</i>	<i>Number</i>	<i>Percent</i>	<i>Accumulative Percent</i>	<i>Number</i>
13 or more	5	1.5	1.5	5 over 12 storeys
11-12	5	1.5	3.0	10 over 10 storeys
9-10.....	8	2.0	5.0	18 over 8 storeys
7- 8.....	38	11.0	16.0	56 over 6 storeys
4- 6.....	297	84.0	100.0	353 over 3 storeys
	353	100%		

LOT WIDTH MAP.

The Lot Width Map indicates the width of all lots, whether occupied or not. It was found that the majority of residential lots are 33 feet in width. These are chiefly located in Hastings Townsite and west of Trafalgar Street. South of False Creek between Trafalgar and Cambie Streets the majority of residential lots are of a width of 50 feet or more.

DENSITY MAP.

The Density Map indicates the number of square feet of lot area per family for each occupied property.

SPECIAL STUDIES.

Streets largely undeveloped, but zoned for business (unrestricted) under Interim Zoning By-Law.

In particular, Fourth Avenue and Broadway in the Kitsilano district have been for years considered business streets; there has, however, been but little development, as there has been small demand for stores and no inclination to erect residences, where their desirability was imperilled by the possible construction of commercial buildings. To justify the placing of certain portions of these streets in a residential classification, studies were prepared to demonstrate the sporadic nature of the business development, notwithstanding the built-up character of adjacent residential areas.

As a result, certain sections were recommended by the Commission for inclusion in the three-storey multiple dwelling classification. These recommendations, however, aroused a considerable diversification of opinion on the part of the property owners, and in passing upon the provisions of the by-law, the City Council ruled that these areas were to be placed under commercial classifications.

The following table shows the result of the studies made on Fourth Avenue and Broadway.

FOURTH AVENUE AND BROADWAY

ZONED THROUGHOUT AS UNRESTRICTED, BUT LARGELY UNDEVELOPED
FOR BUSINESS.

JANUARY, 1928

FOURTH AVENUE—

ALMA ROAD-GRANVILLE:

Total Available Frontage.....		17,680 feet
Total Store Frontage.....	4,746 feet	
Less Vacant Frontage.....	475 feet	4,271 feet
Per Cent. of Available Frontage Developed with Occupied Stores.....		24%

BROADWAY—

ALMA ROAD-GRANVILLE:

Total Available Frontage.....		18,440 feet
Total Store Frontage.....	1,876 feet	
Less Vacant Frontage.....	335 feet	1,540 feet
Per Cent. of Available Frontage Developed with Occupied Stores.....		8%

GRANVILLE-KINGSWAY:

Total Available Frontage.....		15,240 feet
Total Store Frontage.....	3,800 feet	
Less Vacant Frontage.....	424 feet	3,376 feet
Per Cent. of Available Frontage Developed with Occupied Stores.....		22%

KINGSWAY-GRANDVIEW HIGHWAY:

Total Available Frontage.....		11,540 feet
Total Store Frontage.....	1,419 feet	
Less Vacant Frontage.....	144 feet	1,275 feet
Per Cent. of Available Frontage Developed with Occupied Stores.....		11%

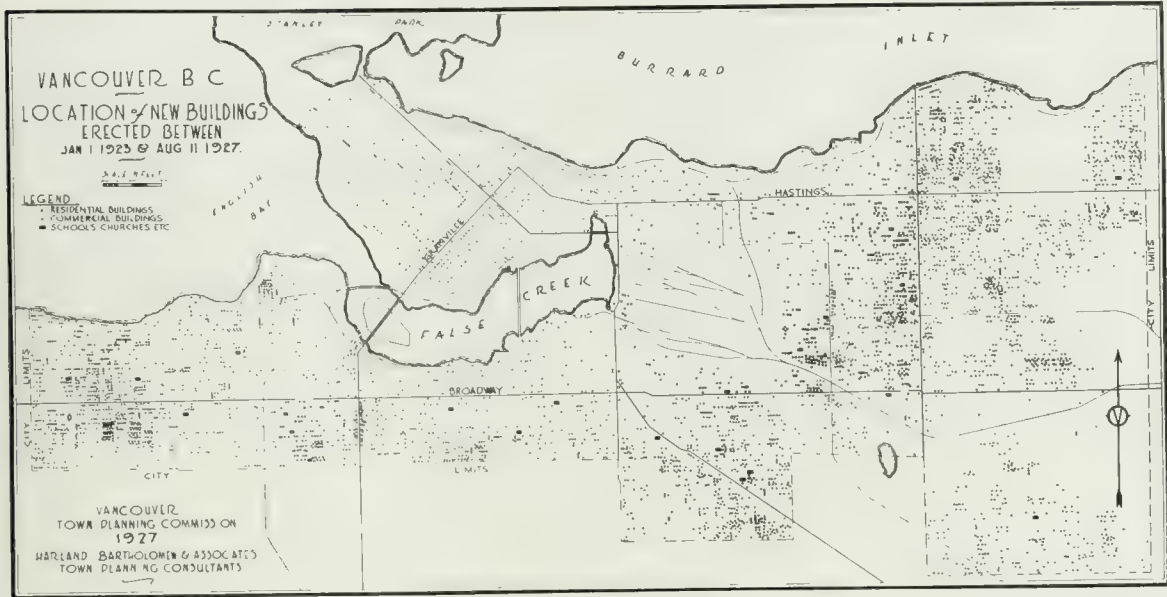


Plate 51

TREND OF BUILDING DEVELOPMENT.

(Plate 51).

From the 1st of January, 1923, to 11th August, 1927, there were erected in Vancouver 4,633 buildings, distributed by years as follows:

	1923	1924	1925	1926	1927
Dwellings	448	616	822	1182	884
Others	145	104	174	211	107
	593	720	996	1393	991

The map shows the location of those buildings and was compiled from the records in the office of the City Architect.

WIND ROSES DIAGRAM.

The meteorological records were consulted and diagrams prepared showing the prevailing winds by seasons and by years for the past four years. These indicate that the general prevailing winds are from the east and south-east. Wind velocities, however, are generally extremely low.

DISTRIBUTION OF POPULATION.

(Plate 17, Page 92).

A dot map was prepared showing the distribution of population in Greater Vancouver. Each dot representing 50 persons. This was prepared from the location of residences, or where this information was not available, from the number of water services. The number of persons per family or per residence was taken to be from three to over five, and was checked with the estimated population in the various districts. These figures, obtained from various sources, were as follows:



A Comparison. Two Vancouver Apartments.

This Apartment Occupies 100% of its Site, and is an Example of Too Intensive Property Use.

An Apartment Conforming with the Zoning Regulations.

	(September, 1928) Wrigley Directories Ltd.	
Vancouver.....	143,560	191,360
Point Grey.....	29,000	45,110
South Vancouver.....	45,000	41,210
Burnaby.....	26,000	21,710
New Westminster.....	20,000	23,140
	263,560	322,530

For Vancouver the number of dwellings, one-family, two-family and multiple, was found to be 23,079, 351 and 662 respectively. The total number of families was counted as 29,859 and the total population (on a careful estimate of persons per family, the factor varying in different parts of the city) to be 143,560 in January, 1928, or, on the average, 4.8 persons per family; the census returns for 1921 gives 5.45 persons per dwelling and 4.2 persons per family. The population at 1st January, 1927, as given by the City Assessor, was 137,197, and a 5% increase is therefore shown by the figure 143,560 since obtained (142,150 was the Assessor's figure in July, 1927).

A detailed survey was made of all apartment houses and tables were prepared showing the name, location, number of storeys, ground area, percentage of site covered by building, number of suites, number of suites vacant, estimated population and the amount of lot area per family for each apartment building.

Of large apartments, the most congested was the Royal Alexandra, recently damaged by fire. It is seven storeys in height and has but 86 feet of lot area per family. Of 107 apartment buildings in the West End, just half, or 54, were found to provide less than 400 square feet of lot area per family, or less than the amount generally considered to be a desirable minimum.

In the whole city there were found 662 apartment houses, having a population of 12,764, or less than 20 persons per apartment house. This figure includes those buildings in which only a portion is utilized for apartment purposes, as well as those devoted entirely to that use.

GENERAL ZONING DATA.

For comparison with other cities, a tabulation was adopted and used in determining the relative sizes of districts to be prescribed by the zoning by-law.

In examining this table, attention is directed to the amount of occupied store frontage in relation to the population served as determined by its distance from the general business district. While the total amount of store frontage in a city, especially in the central business district, depends on the character of the city and its relationship to surrounding areas, the amount in zones removed from the general business district can be compared with profit with similar figures for other cities. The greater the distance from the general business district the less is found to be the number of feet of occupied store frontage per 100 population.

In Vancouver the figures for the zone nearest the general business district are about fifty feet, while the zone furthest removed from the general business district shows less than 12 feet of business frontage per 100 persons of local contributing population, the average being 39.5 feet.

ZONING DATA

1. AREA OF CITY	10,547.2 acres	16.50 sq. mi.
2. DEVELOPED AREAS:		
(a) Streets and Lanes.....	3,079 acres	4.80 sq. mi., 41.4%
(b) Parks	1,380 acres	2.16 sq. mi., 18.5%
(c) Schools, Hospitals, Institutions, Churches..	167 acres	.26 sq. mi., 22 %
(d) Built-up Areas Other than (c).....	2,824 acres	4.42 sq. mi., 37.9%
Total Developed Area.....	7,450 acres	11.64 sq. mi., 100%
3. POPULATION:		
(a) Of City.....		143,560
(b) Per Square Mile of Developed Area.....		12,330
4. SINGLE-FAMILY DWELLINGS:		
(a) Number	23,079	
(b) Number of Persons Housed.....	103,855	(4.5 persons per dwelling)
(c) Per Cent. of Population Housed.....	72.3%	
(d) Per Cent. of Developed Area Occupied.....	29.5%	(2,200 acres of total 7,450)
5. TWO-FAMILY DWELLINGS:		
(a) Number	351	
(b) Number of Persons Housed.....	2,457	(7 persons per dwelling)
(c) Per Cent. of Population Housed.....	1.7%	
(d) Per Cent. of Developed Area Occupied.....	.5%	(36 acres of total 7,450)
6. MULTIPLE DWELLINGS:		
(a) Number of Buildings.....	662	
(b) Number of Apartment Suites.....	5,586	
(c) Number of Persons Housed.....	12,764	(Population)
(d) Per Cent. of Population Housed.....	8.9%	(Not including hotels, etc.)
(e) Per Cent. of Developed Area Occupied.....	1.2%	(90 acres of total 7,450)

(f) Number of Blocks Having One or More Multiple Dwellings.....	421
(g) Average Number of Buildings Per Block Occupied by One or More Multiple Dwellings	1½
(h) Average Number of Persons Per Family in Apartments.....	2½ per family.
7. RETAIL BUSINESS:	
(a) Number of Stores.....	4,425 (Vacant 295, or 4,130 occupied)
(b) Per Cent. of Developed Area Occupied....	3.1% (228 acres of 7,450)
(c) Frontage Total (feet).....	102,356 (Occupied 96,232)
(d) Average Frontage per Store.....	23.1 feet
(e) Frontage per 100 Persons.....	71.3 feet (Occupied, 67 feet)
1. GENERAL BUSINESS DISTRICT:	
Total Frontage.....	48,981 (occupied)
Population Served (Total Population of City).....	143,560
Frontage per 100	34.2
2. FIRST ZONE, APPROXIMATELY ONE-HALF MILE TO ONE MILE BEYOND GENERAL BUSINESS DISTRICT:	
Total Frontage.....	22,317 (occupied)
Population Served (Population in 1st Zone).....	37,157
Frontage per 100 Persons.....	50.1
3. SECOND ZONE BEYOND GENERAL BUSINESS DISTRICT, APPROXIMATELY ¾-MILE TO 2 MILES:	
Total Frontage	18,317 (occupied)
Population Served (Population in 2nd Zone).....	52,934
Frontage per 100 Persons.....	35.1
4. THIRD ZONE, APPROXIMATELY 2 MILES TO 2½ MILES BEYOND GENERAL BUSINESS DISTRICT:	
Frontage.....	5,055 (occupied)
Population Served.....	17,967
Frontage per 100 Persons	28.1
5. FOURTH ZONE, APPROXIMATELY 2½ MILES TO 4 MILES BEYOND GENERAL BUSINESS DISTRICT:	
Frontage.....	1,298 (occupied)
Population Served.....	11,178
Frontage per 100 Persons.....	11.6
8. LIGHT INDUSTRY:	
(a) Area Occupied (square miles).....	130 acres, 0.2 sq. miles
(b) Per Cent. of Developed Area Occupied.....	1.7%
(c) Square Feet per 100 Persons	3,945 sq. ft.
9. HEAVY INDUSTRY:	
(a) Area Occupied (square miles).....	140 acres, .22 sq. miles
(b) Per Cent. of Developed Area Occupied.....	1.9%
(c) Square Feet per 100 Persons.....	4,248 sq. ft.

10. PRESENT USES IN PER CENT (Area Basis):

One-Family Dwellings.....	73.6	2,200 acres
Two-Family Dwellings.....	1.2	36
Multiple-Family Dwellings.....	3.0	90
Schools, Churches, etc.....	5.6	167
Retail Business.....	7.6	228
Light Industry.....	4.3	130
Heavy Industry.....	4.7	140
Total Built-up Area of City.....	100%	2,991 acres

ADEQUATE PROVISION MADE FOR COMMERCIAL DEVELOPMENT.

The relation of population to business frontage has received a good deal of attention in the zoning studies. To obtain this information, tables were prepared showing, for each block, its gross and net area, its present population and the occupied business frontage. As estimated, there will be a population, within the present city limits, of over 370,000 persons when the city has filled up with the population possible under the density permitted in the zoning by-law. The present amount of business frontage per 100 persons throughout the city is 67 feet, and there has been provided for the future a frontage of 73 feet.

The Commission feels well repaid for the labour occasioned in the preparation of this information, which, in addition to its usefulness in the framing of the zoning by-law, has already been of considerable service to several public and semi-public organizations, according to letters received from them.

The population estimate for West Vancouver is 8,000, and for North Vancouver City and District 22,000. Adding to these figures the south shore population of 263,560, the population of the city and surroundings totals 293,560. (Wrigley's Directories give 344,160, September, 1928). A consideration of these estimates, together with the existing 37,350 feet of business frontage in the general business district, shows that there are 12.5 feet of general business frontage per 100 persons of contributing population. With this figure as a basis, there would be required 125,000 feet of business frontage in this district, when the population of the city reaches 1,000,000. This estimate is high, as it does not take into account the effect of the formation of important secondary business centres. It is therefore reasonable to disregard, for the purposes of this estimate, the comparatively small business frontage devoted to any population within the general business district itself.

In the General Business District there are $14\frac{1}{2}$ miles of frontage on proposed major streets, and $10\frac{1}{2}$ miles of frontage on other streets, making a total of 25 miles of frontage or some 130,000 feet. These approximate calculations are put forward merely as a general corroboration of the statement that the present general business district is sufficiently large to permit of a development that will serve Vancouver for the future.

There are proposed for the City of Vancouver 131 miles of frontages on major streets, of which $14\frac{1}{2}$ miles are in the general business district, leaving $116\frac{1}{2}$ miles, or 615,000 feet, of local frontage. If this were all to be used for stores, taking the very generous factor of 50 feet per 100 population, there could be served 1,230,000 persons within the Vancouver district, but, as previously mentioned, the future population within the district is estimated at about 370,000. This comparison is sufficient to show that it is not necessary or good practice to make provision for the development of major streets with stores throughout their length.

GENERAL PROVISIONS OF ZONING BY-LAW.

(Plate 50, Insert, Page 211).

As passed December 17th, 1928, the Zoning By-law supersedes the "Interim" Zoning By-law, which was passed in February, 1927.

Instead of three, there are now ten districts and in each district complete regulations are provided, not only as to use, but also as to height, size of yards required and the density of population to be permitted.

The suggested preamble not now included in the Zoning By-law fully explains its scope:

"A By-law to regulate and restrict the location and use of buildings and the use of land within the City of Vancouver; to limit the height and bulk of buildings; to prescribe the size of yards and other open spaces and the maximum density of population and for these purposes to divide the city into districts.

Whereas, after considering the recommendations of the Vancouver Town Planning Commission, it appears advisable and expedient to make regulations and divide the city into districts as hereinafter provided, pursuant to the Town Planning Act, having due regard to:

- (a) The promotion of public health, safety, convenience and welfare.
- (b) The prevention of the overcrowding of land and the preservation of the amenity of residential districts.
- (c) The securing of adequate provisions for light, air and reasonable access.
- (d) The value of the land and the nature of its use and occupancy.
- (e) The character of each district, the character of the buildings already erected and the peculiar suitability of the district for particular uses.
- (f) The conservation of property values and the direction of building development.

USE DISTRICTS.

Under the provisions of the Zoning By-law the following uses are permitted:

A. ONE-FAMILY DWELLING DISTRICTS.

One-family dwellings, churches, public schools, public museums, libraries, golf courses, parks and playgrounds; also farming and truck gardening and nurseries and greenhouses, used only for the propagating and cultivating of plants; and accessory buildings such as private garages and stables under suitable restrictions. Billboards are not permitted.

B. TWO-FAMILY DWELLING DISTRICTS.

Uses and buildings permitted in the one-family dwelling district, two-family dwellings, group houses comprising detached or semi-detached dwellings, private clubs, fraternities, lodges, excepting those the chief activity of which is a service customarily carried on as a business, and sanitariums or hospitals, other than for isolation cases or for the treatment of animals.

C. THREE-STOREY MULTIPLE-DWELLING DISTRICTS.

Uses permitted in "A" and "B" dwelling districts, multiple dwellings, provided that group houses, row houses or terraces shall not comprise more than four (4) attached dwellings; hotels or apartment hotels, boarding and lodging houses, excepting those containing business, other than for the sole convenience of the guests in the building, institutions of an educational or philanthropic nature and storage garages as accessory buildings.



*A Point Grey Street.
Zoning Protects Residential Development Such as This
From Commercial Intrusions.*



*Zoning Prohibits the Erection of Billboards
in Residential Districts.*

D. SIX-STOREY MULTIPLE-DWELLING DISTRICTS.

Uses permitted in "C" dwelling district.

E. LOCAL COMMERCIAL DISTRICTS.

Uses permitted in dwelling districts, together with retail stores, service or gas stations and public garages.

F. THREE-STOREY COMMERCIAL DISTRICTS.

Uses permitted in dwelling districts, retail stores, service or gas stations, public garages, funeral undertaking establishments and, under certain restrictions as to amount of floor space used, bakeries, candy or jam factories, dyeing and cleaning works and laundries or printing shops.

G. SIX-STOREY COMMERCIAL DISTRICTS.

Uses permitted in the three-storey commercial districts.

H. SIX-STOREY LIGHT INDUSTRIAL DISTRICTS.

Uses permitted in dwelling and commercial districts and any manufactures not objectionable due to smoke, odour, noise or vibration.

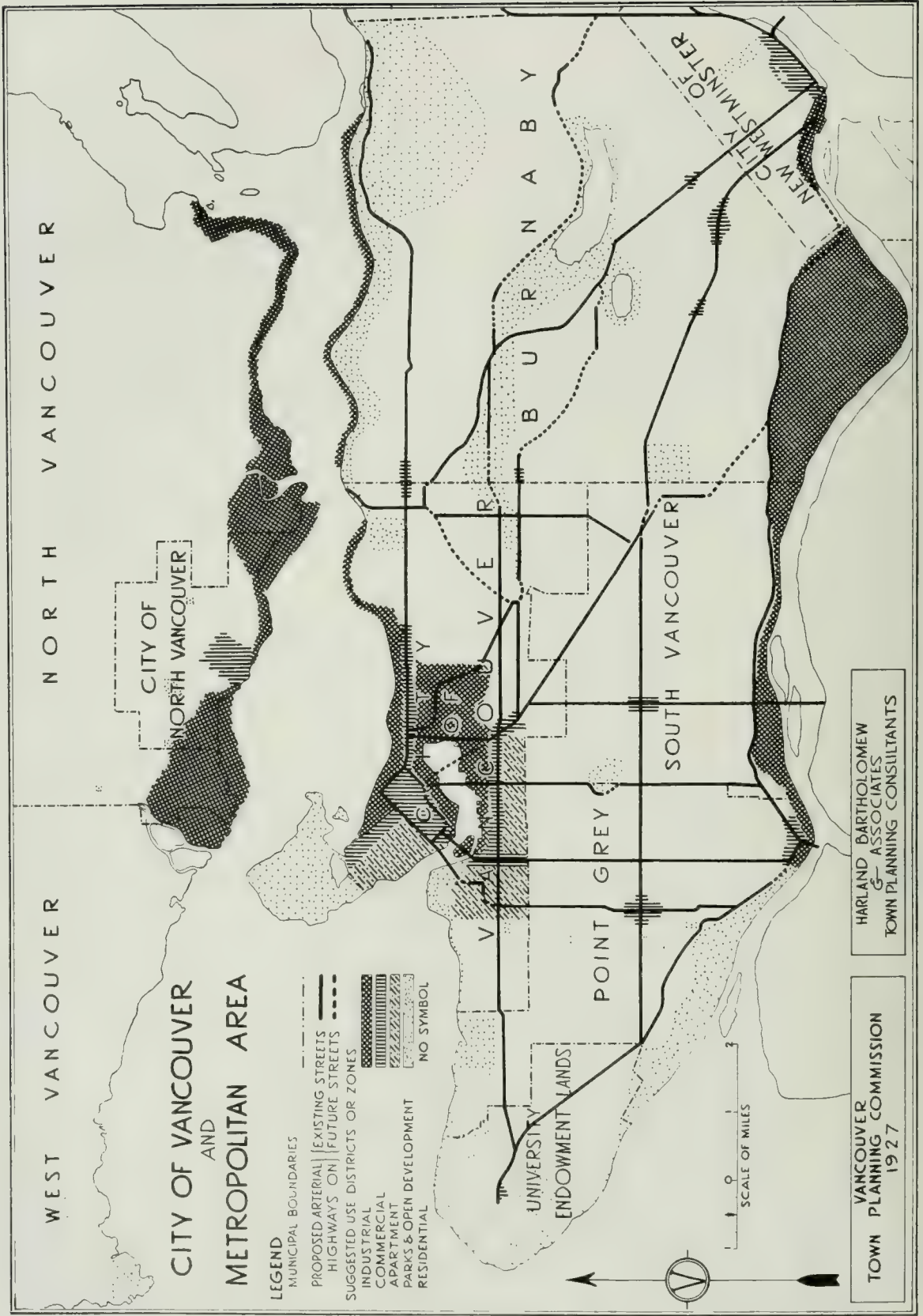
I. GENERAL BUSINESS DISTRICTS.

Uses permitted in the six-storey light industrial district.

J. HEAVY INDUSTRIAL DISTRICTS.

All uses not prohibited by any other law or by-law.

Certain uses permitted in some of these districts are, however, also subject to the approval of the Council. Beside certain objectionable heavy industries there are included as subject to the Council's approval the following:



The keeping of horses, cows, goats, pigs, sheep, poultry, or the keeping of dogs for breeding purposes.

Houseboats.

Livery stable, sale or boarding stable or stable in which horses are to be kept for hire or delivery or express purposes.

Dog hospital.

The keeping of live poultry for retail or wholesale trade.

Also, unless with the approval of the Council, dwellings are not permitted in a heavy industrial district.

LOCATION OF USE DISTRICTS.

(Plate 52).

INDUSTRIAL DISTRICTS.

Of first consideration was the determination of the location of industrial areas. A general study of the region was made and the areas suitable for industrial development have been shown on a map for the Greater Vancouver district. These naturally include those areas that are, or that can be, economically served by water or rail transportation, and take into account the changes that may be expected in the future. It is worthy of note that the results of an independent study by engineers consulted in regard to future electric power requirements confirm the recommendations of this Commission.

The areas now zoned as industrial for the City of Vancouver itself are part of the larger scheme for the entire area.

The direction of the prevailing winds has been considered in locating industrial districts in order, where possible, to have the smoke from such districts blown away from, instead of toward, residential and commercial districts.

GENERAL BUSINESS DISTRICT.

The next step was the determination of the size and location of the future general business district. As explained in the major street report, the ultimate centre of business values will be at a point most nearly central to the various streams of traffic (vehicular and street car) coming from all parts of the city. A study of the main approach thoroughfares to the north, south, east and west indicated that the centre of the future business district has already reached its logical location at the intersection of Georgia and Granville Streets.

SIX-STOREY COMMERCIAL DISTRICTS.

The West End presented some difficult zoning problems. It is comparatively easy to compute the expected population that will be possible under the proposed zoning regulations, and hence the amount of business frontage can be calculated. If, however, commercial districts are restricted in this scientific and reasonable way, they do not meet with the wishes of owners of property who have anticipated certain streets as future business streets. For this reason the entire frontage of Davie, Denman and Robson Streets have been zoned as six-storey commercial districts, although such classification is in excess of the estimated requirements for the district.

Six-storey commercial districts have also been provided on Georgia and Alberni Streets between Cardero Street and Stanley Park on Granville Street South, between Broadway and Sixteenth Avenue, and on Broadway between Granville Street and Cambie Street.

COMMERCIAL DISTRICTS.

To adequately serve the local needs of residents, local commercial and three-storey commercial districts are provided. The function of the local commercial district is, in general, to provide a site for the "corner" store, the grocery store and the drug store in one and two-family dwelling districts. The three-storey commercial district is to provide the same service for three-storey multiple-dwelling districts and, as well, to permit of "secondary" business districts, such as, for example, those along Commercial Drive and Broadway.

DWELLING DISTRICTS.

At present Vancouver is largely a city of one-family homes, and large areas for one-family dwellings have been provided. Whether or not these will remain one-family or become two-family districts can be safely left to the wishes of the owners themselves, and the by-law amended accordingly when occasion arises.

Provision has also been made in suitable localities for multiple-dwellings or apartments. The height to which these structures may be erected has been limited to three storeys, except in the West End, where a height of six storeys is permitted.

CLASSIFICATION OF PARKS AND BATHING BEACHES.

The uses permitted in a one-family dwelling district include parks and playgrounds. Public beaches or beaches adjoining municipal lands have been classified under this head. Other areas, such as undeveloped beaches and parks under private ownership have been classified (according to usual zoning practice) as of the district of which they form part. For example, south of Beach Avenue and east of Denman Street, the area has been classified as a six-storey multiple dwelling district or apartment district. It is the hope of the Commission that some day this property will be publicly owned and a part of the park and boulevard system. Until, however, the land has been acquired, it is not considered a reasonable exercise of the zoning powers conferred on the city to restrict such areas to a one-family dwelling district, as some citizens have suggested. Similarly, the Kitsilano Reserve Lands and the Canadian Pacific Railway "Hotel Site," the latter already developed as a park but still privately owned, have been classified as being two-family dwelling districts until, as recommended, they come under the ownership and full control of the city.

NON-CONFORMING USES.

After determining in a tentative manner the boundaries of the various districts, a map was prepared showing all existing uses of property where such uses did not conform with the uses permitted in the districts. This provided a desirable check on the work of zoning; several minor changes in boundaries were made as a result of such study.

PERCENTAGE OF DIFFERENT USES.

An estimate was prepared of the percentage of the city's area used for different purposes and can be compared with the uses permitted under the present and interim zoning by-laws. These comparisons are as follows:

Use	Permitted Under Interim Zoning		Permitted Under Present Zoning		Per Cent.	Acreage
	Present	By-law	By-law	By-law		
Industrial (and Unrestricted).....	8.3%		Heavy	13.5	1,425	
			Light.	5.8		608
Commercial.....	2.2%	21.1%	Central Business.....	2.5	265	
			6-Storey Com.....	.5	52	
			3-Storey Com.....	2.0	207	
			Local Com.....	.6	59	
Residential	.80%	7.6%	6-Storey Apt.....	2.0	214	
			3-Storey Apt.....	6.9	733	
			2-Family Dwell.....	2.8	295	
			1-Family Dwell.....	21.1	2,230	
Schools, Churches, etc.	4.0%					
Streets and Lanes.....	29.2%	29.2%		29.2	3,079	
Parks	13.1%	13.1%		13.1	1,380	
Unoccupied.....	21.1%					
	100%	100%		100%	10,547	

HEIGHT AND AREA REGULATIONS.

(Plate 53, Page 224).

The following are, in part, the height, yard and density regulations for the various districts:

A. ONE-FAMILY DWELLING DISTRICTS.

Height: 35 feet or 2½ storeys.

Front Yard: 20 feet, except that where 40% of the frontage has been built upon the average front yard shall be maintained.

Rear Yard: 25 feet, measured from centre line of lane.

Side Yard: Two, each 10% of width of lot with a maximum of 5 feet and minimum with windows of 4 feet.

Site Area: 4,800 square feet per family, except for existing lots of smaller area, or when the City Engineer permits, in conformity with the neighbourhood, a subdivision of lots of not less than 3,600 square feet.

B. TWO-FAMILY DWELLING DISTRICTS.

Height: 35 feet or 2½ storeys.

Front Yard: 20 feet, except that where 40% of the frontage has been built upon, the average front yard shall be maintained.

Rear Yard: 25 feet, measured from centre line of lane.

Side Yard: Two, each 10% width of lot with a maximum of 5 feet and minimum with windows of 4 feet.

Site Area: 2,400 square feet per family, but for one-family dwellings same requirements as for "A" district.

C. THREE-STOREY MULTIPLE DWELLING DISTRICTS.

- Height: 45 feet or 3 storeys.
Front Yard: 20 feet, except that where 40% of the frontage has been built on, the average front yard shall be maintained.
Rear Yard: 25 feet, 15 feet on corner sites, measured from centre line of lane.
Side Yards: Two, each 10% of width of lot with a maximum of 5 feet and a minimum with windows of 4 feet, each side yard to be increased by one foot for each storey above the second, and each side yard to be not less than 1¼ inches in width for each foot of building length from front to rear.
Site Area: 750 square feet per family, but for one or two-family dwellings same requirements as for "B" district.

D. SIX STOREY MULTIPLE-DWELLING DISTRICTS.

- Height: 75 feet or 6 storeys.
Front Yard: 12 feet.
Rear Yard: As for "C" district.
Side Yards: As for "C" district.
Site Area: 1,720 square feet divided by the number of storeys gives the number of square feet per family, but the maximum need not exceed 750 square feet per family, but for one or two-family dwellings same requirements as for "B" district.

E. LOCAL COMMERCIAL DISTRICTS.

- Height: 35 feet or 2 storeys.
Front Yard: None, except in the case of a dwelling 20 feet, or where stores are located in a block zoned partly for business and partly for dwellings, in which case the stores shall not project beyond the front yard line of the dwellings.
Rear Yard: 25 feet measured from centre line of lane.
Side Yards: 3 feet adjoining a dwelling district or, if provided, where not required, 3 feet; but for dwellings see "A" district requirements.
Site Area: 2,400 square feet per family.

F. THREE-STOREY COMMERCIAL DISTRICTS.

- Height: 45 feet or 3 storeys.
Front Yard: As for "E" district.
Rear Yard: 10-14 feet measured from centre line of lane.
Side Yard: As for "E" district, but for dwellings "C" district.
Site Area: 750 square feet per family, but for one or two-family dwellings same requirements as for "B" district.

G. SIX-STOREY COMMERCIAL DISTRICTS.

- Height: 75 feet or 6 storeys.
Front Yard: None.
Rear Yard: As for "F" district.
Side Yard: As for "F" district.
Site Area: As for "D" district.

H. SIX-STOREY LIGHT INDUSTRIAL DISTRICTS.

- Height: 75 feet or 6 storeys.
Front Yard: None.

Rear Yard: 10-14 feet from centre line of lane.
 Side Yard: 3 feet adjoining dwelling districts or, if provided, but for dwellings "C" district requirements.
 Site Area: As for "D" district.

I. GENERAL BUSINESS DISTRICT.

Height: 120 feet or 10 storeys on 80-foot streets, and to 200 feet with setback 1:3.
 Front Yard: None.
 Side Yard: As for "H" district.
 Rear Yard: None.

J. HEAVY INDUSTRIAL DISTRICT.

Height: 100 feet or 8 storeys.
 Front Yard: None.
 Rear Yard: None.
 Side Yard: None, but 3 feet if provided.

COMMENTS ON HEIGHT AND AREA REGULATIONS.

HEIGHTS.

The heights permitted in the various districts conform in general to existing building practice and are such that under normal conditions they should permit (in conjunction with yard and density regulations) of the economic use of land, provide light and air and prevent undue congestion.

In "A" and "B" dwelling districts, dwellings may be erected to three storeys in height by providing side yards of 15 feet in width.

In "A" and "B" dwelling districts public or semi-public buildings, where permitted, may be erected 75 feet in height by providing additional side yards width.

Under the proposed zoning by-law the heights of certain structures, such as grain elevators or sugar refineries, are not limited; chimneys, towers and similar structures not exceeding 10% of the area of the main building are also unrestricted in height.

HEIGHT OF BUILDINGS IN GENERAL BUSINESS DISTRICT.



Setbacks—Vancouver Hotel.

The limitation of the height of buildings in the down-town district has received a great deal of thought. Were the area known as the general business district fully developed, there would be no need of any tall buildings, and, theoretically, buildings of six storeys in height would fulfill the requirements for the Vancouver of the future. At one time it was considered that the height might therefore be limited to ten storeys. Having regard, however, to the fact that the present height regulations are incorporated in the Vancouver City Charter, and that several buildings have already been erected, or are to be erected, in conformity with the Charter regulations, it was decided to make those regulations a part of the zoning provisions for the general business district. These regulations, however, have been modified by a



Light and Air Apartments Erected Under the Provisions of the Interim Zoning By-law.



Too Intrusive Use of Land. This Class of Dwelling Can no Longer be Erected in Vancouver.

setback after a height at the street line is reached of one and one-half times the width of the street. On a street 80 feet or more in width, the only change from the Charter regulations is that above 120 feet in height the superstructure of one-third of the base area must set back one foot for every three feet of height instead of being built, as was possible, to the street line. On a 66-foot street a building can be erected to 99 feet, and above that a similar setback is required. The resulting provision for light and air being identical with that on an 80-foot street, and the effect on traffic congestion is kept proportionate to the width of the street.

In preparing the setback regulations, careful studies were made as to the possible amount of sunlight reaching the street surface, shining on building facades or actually entering rooms through the windows. The amount of sunshine possible in Vancouver for the winter months is little more than half that possible for the summer months. For the months of November, December, January and February, records for the past four years show that on account of weather conditions only from 15% to 20% of the possible sunshine was received. In these months, therefore, the amount of sunshine received is almost negligible.

Sunlight curves were plotted for monthly intervals throughout the year. The curve for the date of 21st October or 21st February (neglecting the four months in the year when no appreciable sunshine is received) was adopted as the basis of sunlight studies.

It was established that for streets oriented as Granville and Hastings Streets, a 1:3 setback above the height permitted at the street line cuts off but little more sunlight than a 1:2 setback, and, being much more desirable from an architectural standpoint, the 1:3 setback was therefore adopted.

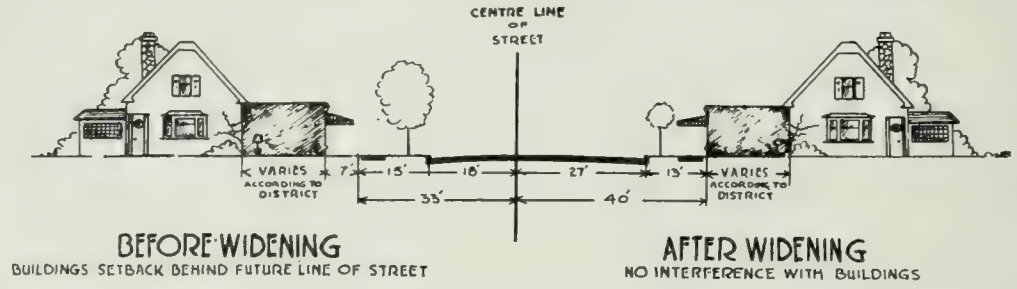
SIZE OF YARDS.

FRONT YARDS.

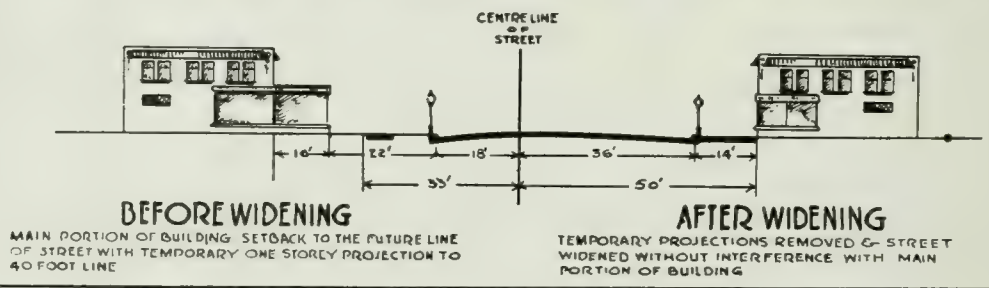
The front yard requirements for dwelling districts are less than those now generally prescribed in other cities on the continent, but are dictated by existing conditions and popular opinion. Twelve feet is not a sufficient setback for an attractive apartment, but the front yard regulation is strengthened by the fact that no important projections except steps may be erected in any front yard.

FUTURE STREET WIDENING BY PRESENT BUILDING LINE VANCOUVER BRITISH COLUMBIA

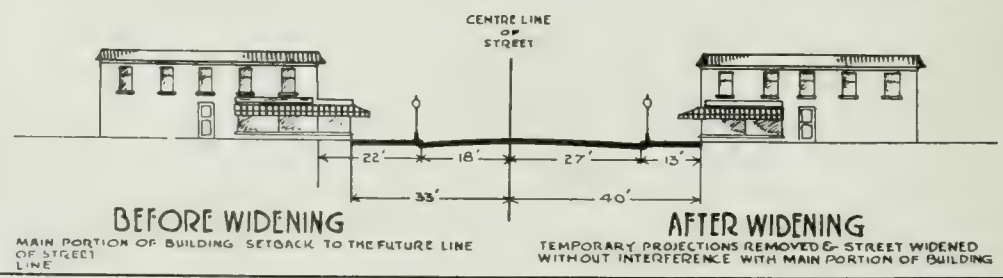
(A) WIDENING FROM 66 TO 80 FEET STREETS WITH LESS THAN 10% DEVELOPED FRONTAGE INTERFERING WITH WIDENING



(B) WIDENING FROM 66 TO 100 FEET STREETS WITH LESS THAN 10% DEVELOPED FRONTAGE INTERFERING WITH WIDENING



(C) WIDENING FROM 66 TO 80 OR 100 FEET STREETS WITH MORE THAN 10% DEVELOPED FRONTAGE INTERFERING WITH WIDENING



REAR YARDS.

For dwellings the general depth of rear yard prescribed is 25 feet. In computing the required depth of rear yard, one-half the width of a lane may be assumed to be a part of the yard. This provides between the rear of dwellings an interval of 50 feet, the distance generally regarded as the minimum for desirable housing conditions.

On corner sites for multiple dwelling districts, the rear yard may be reduced to 15 feet, and for lots less than 120 feet in depth the depth of rear yard need not exceed 20% of the depth of the lot.

SIDE YARDS.

In one and two-family dwelling districts the maximum side yard required is 5 feet, making the distance between dwellings where such side yards are provided 10 feet; this insures a better fire rate than if a lesser distance were provided, the change in rates being made at 10 feet.

Recent experience in Vancouver has confirmed the desirability of including a provision that at corners where a corner building flanks a street on which dwellings front, there should be provided a side yard, and for accessory buildings the full setback. This requirement is limited by providing that the buildable width of a lot is not to be reduced to less than 26 feet.

For multiple dwellings the side yard is to be increased one foot for each full storey above the second. To provide for sunlight and air it is also a requirement that the width of the side yard to be a function of the length. The usual rule is $1\frac{1}{2}$ inches of yard width for every foot of building length. Sunlight diagrams show the reasonableness of this requirement and establish the need of such a rule for buildings of three as well as six storeys in height. The regulation eventually suggested as a concession to the existing conditions in the West End was $1\frac{1}{4}$ inches of yard width for every foot of building length, making the ordinary maximum width of side yard about 11 feet.

DENSITY OF POPULATION PERMITTED.

The regulation calling for at least 4,800 square feet of site area per family, except for existing lots of less area, is one designed to prevent the subdivision of lots into anything smaller than, say, 40 x 120 feet. It would not ordinarily permit of the further division of a 50-foot lot. The density regulation for the three-storey dwelling district will allow eight families in an apartment on a 50 x 120 foot lot. In the West End the original normal lot was 66 x 131 feet, with streets 66 feet wide and lanes 33 feet wide. After considerable study a special density regulation for the average 66-foot lot has been proposed for this apartment area, so that in general there will be permitted five suites per floor or thirty families in a six-storey apartment on a 66 x 131 foot lot. While the density in a six-storey building will be greater than permitted in most cities, yet the crowding of a large number of suites in a two-storey apartment will be prevented.

BUILDING LINES.

(Plate 54).

While opposition has been met in regard to the prescribing of building lines on certain streets that are recommended to be widened in future, these objections should be overcome by presenting the actual figures of the total frontage to be widened (a large amount of which is in residential districts where a front yard, in any event, is required) and the comparatively small amount of frontage now developed in such a way as to interfere with future widening. The information compiled may be summarized as follows:

<i>Major Street Plan</i>	<i>Length in Miles</i>	<i>Frontage in Miles</i>	<i>Frontage Developed to Interfere with Widening.</i>
Streets not to be Widened.....	55.0	83.0	
Streets to be Widened.....	14.5	24.0	0- 10%, average 3.2%
	9.5	16.0	10-100%, average 27%
New Streets.....	8.0	8.0	
	87.0	131.0	
All Streets (approximately).....	335	570	

The frontage to be widened represents about 7% of the total street frontage in Vancouver.

STREETS TO BE WIDENED

	<i>Frontage</i>	<i>Zoned as Business Frontage</i>	<i>Developed as Business Frontage</i>
Largely "Residential" Streets.....	24 miles	3 miles	1 mile
Largely "Business" Streets.....	16 miles	14 miles	5 miles
All Streets to be Widened.....	49 miles	17 miles	6 miles

A strong objection has been made to building lines prescribed on flanking streets so as to reduce the buildable width of a lot. This might be made a matter of appeal by any person who considers a site to be reduced by a building line to an unbuildable width or depth. It could also be provided that should the Board of Appeal concur in such view, the Council might be given an opportunity to purchase or otherwise deal with the case, or failing which, within thirty days of the application for a building permit, the said permit should be granted without the enforcement of the building line.

Whether by an amendment to the zoning by-law or by a separate building line by-law, the very important matter of building lines should have early if not immediate attention.

APPEALS.

A zoning by-law must deal in a broad way with the conditions found and the regulations prescribed for each district. It would involve unnecessary time and expense to consider in detail every particular piece of property in advance of building. In some special cases, however, the literal enforcement of the by-law might work unnecessary hardship and a Board of Appeal is constituted to make such relaxations as the special cases call for, so that the interests of individuals are not unnecessarily sacrificed for the benefit of the community.

The use of a district cannot be changed by the Board, which, however, may permit public or semi-public buildings, aeroplane landing fields or public utilities in districts from which they are otherwise prohibited and may permit, under certain conditions, the extension of a non-conforming use.

Experience in other cities shows that while the function of the Board of Appeal is to see that justice is done, the Board, to carry out their duties most effectively, should act with the greatest caution.

ENFORCEMENT.

The provisions of the zoning by-law are administered in general by the City Architect and his staff. Other civic officials are also concerned, as for instance the License Inspector, who issues licenses for the carrying on of the industrial and commercial uses.

AMENDMENTS.

Provision for changes in the Zoning By-law is made in the Town Planning Act.

Amendments to the by-law may be requested by application to the City Council, and, if considered, the procedure is similar to that for the passing of the original Zoning By-law.

HOUSING.

A matter of vital interest to any city is the subject of housing. The question has been raised as to its relation to the "Town Plan" and particularly to the relation between housing and zoning.

One of the principal objects of a plan is undoubtedly to provide suitable areas for the erection of homes for those who engaged in the industrial or commercial life of the city, and, further, to provide suitable access between the home and both the place of work and the place of play. In such provision, the major street plan, the transit (street car and bus) plan, the public recreation plan, and zoning, all have a part.

The planning of new subdivisions should be criticized from the standpoint of the future home served at reasonable cost with all utilities. In this connection a very interesting comparison was made a few years ago by Mr. A. G. Dalzell, M.E.I.C., then Assistant City Engineer of Vancouver, as to the cost of development of equal areas in Shaughnessy and Ward 8. He demonstrated that the decidedly higher class property as planned on the high land had cost considerably less for the development of utilities than the less desirable low land in Ward 8.

To better conditions for areas already poorly planned, "replotting" legislation has been enacted. A specific replotting scheme has been worked out for a portion of Hastings Townsite so that streets with reasonable grades can be provided and utilities more cheaply installed, as has been done in Point Grey under a special Act.

Whether or not the city itself should engage in the building of homes is a matter that on this continent has generally been decided in the negative, though numerous schemes have been carried out by private corporations or under government auspices. The greatest attempt to aid home building in Canada has been made under provincial government auspices, assisted by cheap money from the federal government. Housing Commissions were formed in numerous cities during the war. The most successful ventures have been those where housing companies (such as, for example, in Toronto) have organized under provincial enactment, raised a certain amount of capital, the balance being underwritten by city or province at a low rate of interest. The general opinion seems to be that such building is in its nature a matter of private rather than of public enterprise. In Vancouver the zoning by-law has been prepared with every attention for present and future housing needs as far as they could be considered within the scope of the Commission.

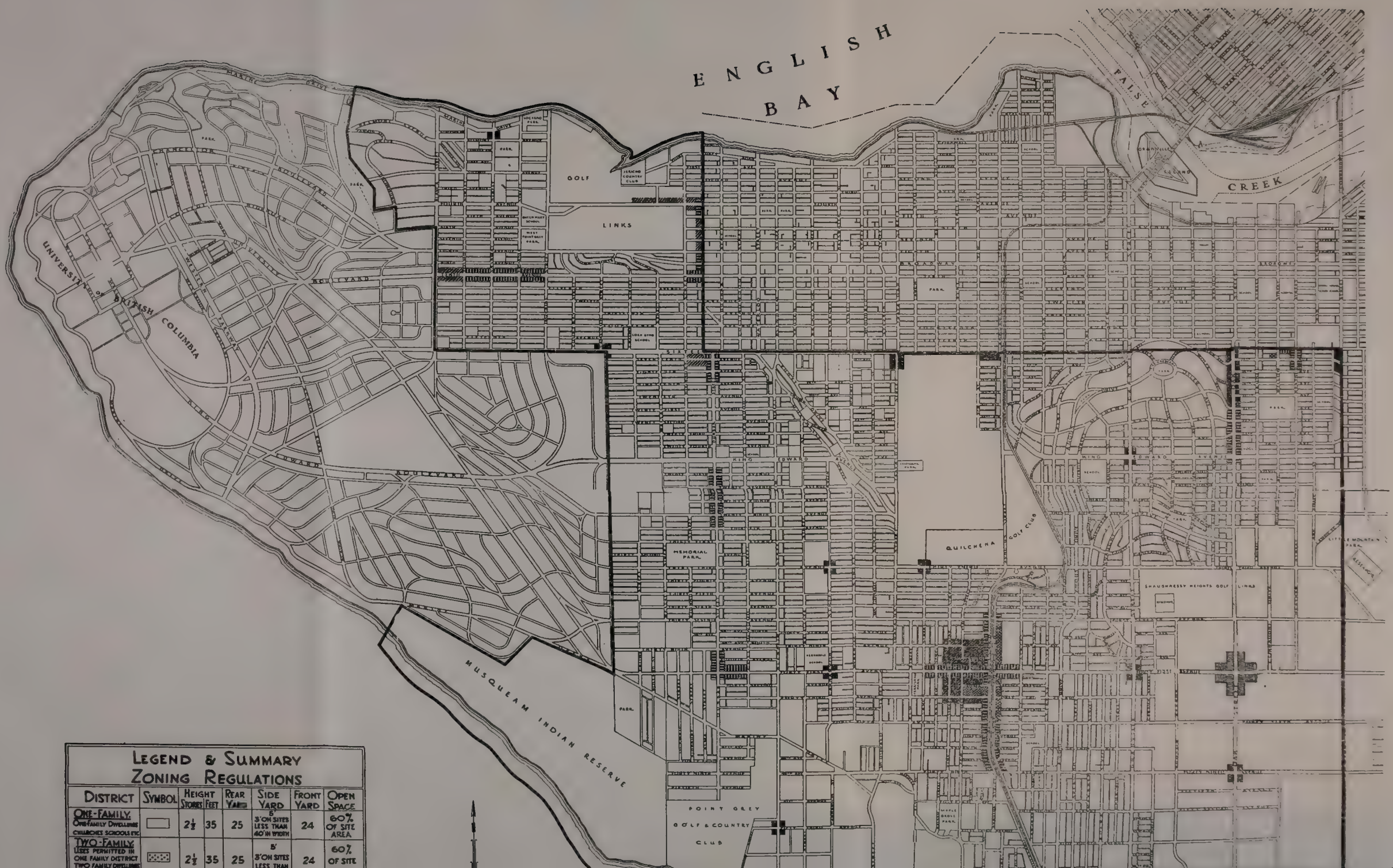
As has been mentioned, Vancouver is largely a city of one-family homes and is surrounded by similar development in the adjoining municipalities. Large areas are now

available for such development, though a considerable proportion has yet to be served by utilities. That the one-family dwelling is the desirable unit for happy living is the general consensus of opinion of all authorities.

To fill various housing needs, two-family districts (where preferred by the owners to a one-family development) and three-storey and six-storey dwelling districts are prescribed under the zoning regulations, that should promote healthful conditions and yet permit of economic development. Group houses facing on a "place" and known to the South as "bungalow courts" are permitted, but there are few areas where such development would be suitable. Where deep lots are available, group housing may, however, form a pleasant alternative to the ordinary apartment development.

Row houses or terraces are restricted to not more than four dwellings, and "cabins" such as now exist are not permitted. No dwellings are permitted in a heavy industrial district without the special consent of the Council, and the provisions of the zoning by-law are such that dwellings carry important restrictions with them if erected in less restrictive districts.

Evidently zoning, as well as the other phases of a town plan, touch closely on the matter of housing. The housing problem, however, as outlined by some, can only be solved when the city or state is in a position to guarantee to every individual householder a wage sufficient for the payment of a reasonable rent. While town planning can go far to create and maintain desirable housing conditions, it is beyond its scope, as outlined by Provincial Acts, to concern itself with the very important economic problem involved in such an understanding, a problem which demands separate study and treatment.



**LEGEND & SUMMARY
ZONING REGULATIONS**

DISTRICT	SYMBOL	HEIGHT STORIES	HEIGHT FEET	REAR YARD	SIDE YARD	FRONT YARD	OPEN SPACE OF SITE AREA
ONE-FAMILY ONE-FAMILY DWELLINGS CHURCHES SCHOOLS ETC.	[White box]	2½	35	25	5' 3' ON SITES LESS THAN 40' IN WIDTH	24	60% OF SITE AREA
TWO-FAMILY USES PERMITTED IN ONE-FAMILY DISTRICT TWO-FAMILY DWELLINGS PRIVATE CLUBS ETC.	[Dotted box]	2½	35	25	5' 3' ON SITES LESS THAN 40' IN WIDTH	24	60% OF SITE AREA

**LEGEND & SUMMARY
ZONING REGULATIONS**

DISTRICT	SYMBOL	HEIGHT STORES FEET	REAR YARD	SIDE YARD	FRONT YARD	OPEN SPACE
ONE-FAMILY. ONE-FAMILY DWELLINGS CHURCHES SCHOOLS ETC	□	2½	35	25	5' 3' ON SITES LESS THAN 40' IN WIDTH	24 60% OF SITE AREA
TWO-FAMILY. USES PERMITTED IN ONE FAMILY DISTRICT TWO FAMILY DWELLINGS PRIVATE CLUBS ETC	▤	2½	35	25	5' 3' ON SITES LESS THAN 40' IN WIDTH	24 60% OF SITE AREA
MULTIPLE DWELLINGS. USES PERMITTED IN TWO FAMILY DISTRICTS APARTMENTS BOARDING HOUSES HOTELS & ACCESSORY USES	▨	3	45	25' ON INTERIOR SITES 15' ON CORNER SITES	5' 3' ON SITES LESS THAN 40' IN WIDTH PLUS 1' FOR EACH STORY ABOVE 2	24 50% OF SITE AREA ON INTERIOR SITE 40% ON CORNER SITE
LOCAL BUSINESS. USES PERMITTED IN MULTIPLE DWELLING DISTRICTS RETAIL STORES	■	2½	35	25	5' ADJACENT DISTRICT AND IF PROVIDED WHERE NOT REQUIRED NOWHERE ELSEWHERE	24 50% OF SITE AREA ON INTERIOR SITE 40% ON CORNER SITE
COMMERCIAL. USES PERMITTED IN LOCAL BUSINESS DISTRICTS AND PUBLIC MARKETS ON CERTAIN CONDITIONS	▧	3	45	10	SAME AS LOCAL BUSINESS	NONE NONE
LIGHT INDUSTRIAL. USES PERMITTED IN COMMERCIAL DISTRICTS PUBLIC GARAGES ANY MANUFACTURES NOT OBJECTIONABLE BY REASON OF SMOKE DUST ODOR NOISE OR VIBRATION	▩	3	45	10	SAME AS COMMERCIAL	NONE NONE
HEAVY INDUSTRIAL. USES PERMITTED IN LIGHT INDUSTRIAL DISTRICTS ANY OTHER INDUSTRY DWELLINGS NOT PERMITTED	▪	6	75	NONE	NOT REQUIRED IF PROVIDED NOT LESS THAN 3'	NONE NONE

ABOVE LEGEND & SUMMARY TO BE READ IN CONJUNCTION WITH BY-LAW



POINT GREY
B. C.

DISTRICT MAP

POINT GREY TOWN PLANNING COMMISSION
1927

HARLAND BARTHOLOMEW AND ASSOCIATES
TOWN PLANNING CONSULTANTS

Note.—This Map does not form part of By-law
and is published for reference only.

POINT GREY ZONING

DESCRIPTION OF THE POINT GREY ZONING BY-LAW.

(Plate 55).

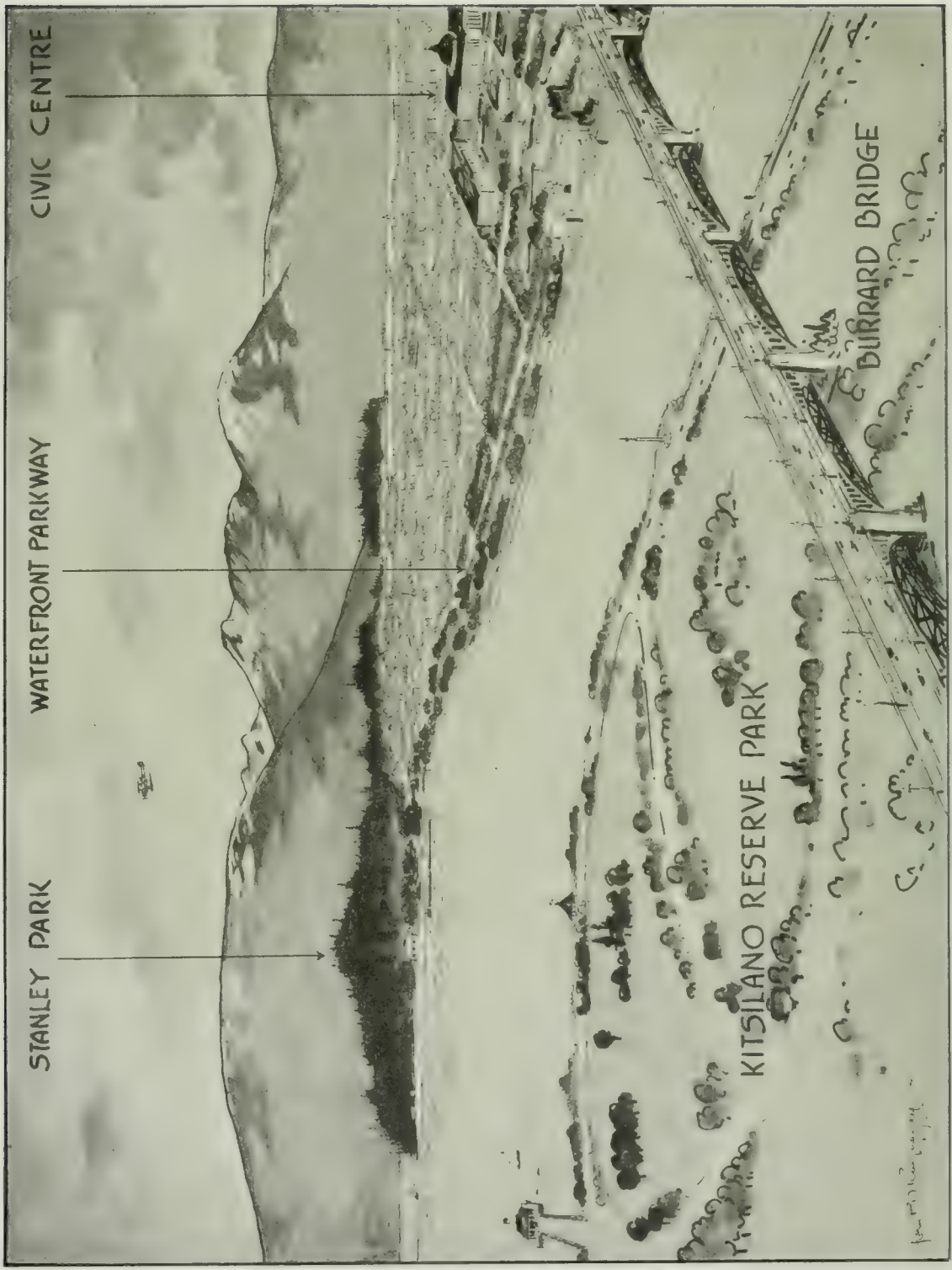
In 1922 the Municipality of Point Grey passed, under the provisions of the Municipal Act, zoning regulations, which, it has been claimed, were the most comprehensive of such regulations passed up to that time anywhere in Canada. On October 24th, 1927, there was enacted in Point Grey a zoning by-law under the provisions of the Town Planning Act. In the preparation of this by-law the endeavour was made to have its provisions such that they would be in keeping with the zoning by-law expected to be passed in the City of Vancouver. According to the terms of the amalgamation of Point Grey and South Vancouver and the city on January 1st, 1929, a zoning by-law has to be passed for the greater city that will take the place of any zoning by-laws in existence prior to the amalgamation. This being the case, it is of some interest to note in what particulars the Point Grey by-law differs from that of Vancouver. The municipality of Point Grey is essentially a residential development and this point was emphasized when the by-law was being passed. There was, in general, no urge from the public for greater areas for commercial purposes, and in many instance the demand was met for the deletion of certain local business districts that had been designed to fill neighbourhood needs.

In Point Grey there are only seven classifications, as compared with ten classifications in Vancouver; in Point Grey the six-storey multiple dwelling, the six-storey commercial and the general business classifications are omitted. In the residence districts in Point Grey the front yard regulation is 24 feet, while for Vancouver it is only 20 feet. The side yard regulation in Point Grey calls for a 5-foot side yard, but may be reduced to 3 feet for lots less than 40 feet; in Vancouver, while the side yard regulation has a maximum width of 5 feet, it need not be greater than 10% of the site width. In Point Grey for multiple dwellings the side yard has to be increased 1 foot for each storey above the second, as in the case of Vancouver, but there is not the Vancouver regulation of 1¼-inch side yard for each foot of length of building.

In the Point Grey by-law, density is regulated by the percentage of open space required; in Vancouver by the number of square feet of site area required per family. The regulations in regard to commercial districts are generally similar, except that the Vancouver regulations are such that in the case of, for example, 20-foot lanes, there is provided also a 4-foot setback on either side, that is to be kept clear of buildings.

In Point Grey the light industrial classification allows for only three storeys, while in Vancouver six storeys are permitted. Similar differences exist in regard to the heavy industrial classification, Point Grey permitting six storeys, while in Vancouver eight storeys are permitted.

There are other minor differences which are not of sufficient importance to be included in a statement of this character, but a very important difference must, however, be noted. In the Point Grey by-law building lines have been included for all streets on which future widening is expected, the advantage of which provision cannot be too strongly stressed. Something similar must be done in regard to those other areas that are to make up the new City of Vancouver.



STANLEY PARK

WATERFRONT PARKWAY

CIVIC CENTRE

KITSILANO RESERVE PARK

BUIRRARD BRIDGE

H. M. 1914

CIVIC ART

THE APPEARANCE OF THE CITY

In the preceding reports many schemes have been outlined for the improvement of Vancouver. A system of major streets has been proposed as the most satisfactory and effective means of caring for the daily flow of heavy traffic throughout the city. A transportation plan is offered by which rail and water facilities may be progressively enlarged and better fitted to the needs of industries and shipping interests. A transit plan is now available, indicating desirable changes and betterments of street car routing and operation. A zoning by-law has been drawn to assure the community a more orderly development of private property and greater stability of values. Recreation and park areas have likewise been studied and systematized with reference to public needs and to other civic features.

All these schemes constitute the basic pattern of a greater city. Together they make up the plans and specifications by which a more healthful and more efficient Vancouver of the future may be built. But it is only incidentally that these elements of the town plan touch the appearance of the city. The plan, to be properly balanced and complete, must clearly show how the city may be made more pleasing to the eye.

It is not enough merely to build a clean, healthful, orderly, smooth-functioning urban organism, although every agency of government should strive toward this end. In every possible way it must erase from the mind of the city dweller the monotony of daily tasks, the ugliness of factories, shops and tenements and the fatigue of urban noises. It can do this by showing a decent regard for its appearance, and by various devices it must occasionally touch the emotions. The city becomes a remembered city, a beloved city, not by its ability to manufacture or to sell, but by its ability to create and hold bits of sheer beauty and loveliness. A Stanley Park, a glorious display of public buildings, an inspiring shaft or breath-taking vista, a bridge of noble proportions, such features as these are priceless treasures. They redeem the city and make it really great.

CONSERVE NATURAL BEAUTIES.

Vancouver has been given a notable start toward greatness by nature. The marine landscapes which have been placed about the city cannot be sold or easily destroyed. But they are now occasionally disfigured by a pall of unnecessary smoke. And too few vantage points have been created from which the waters of the Inlet and Bay and the mountain background may be viewed.

The Parks Board has done extremely well in building a drive and promenade around Stanley Park. The Board has not made the common mistake of giving the automobile riders first position along the sea wall. There is a disposition in park circles to make too many concessions to the motorist. The fact is overlooked that few elements of natural scenery are seen to advantage from a moving vehicle. The pedestrian deserves primary consideration, for he is willing to exert himself to see the landscape under advantageous conditions.

In the system of proposed parkways and boulevards, one aim has been to carry the motor-loving public to new points from which the magnificent panorama of Vancouver may be seen; Little Mountain and Capitol Hill are of great value for this purpose. The drives along the Inlet above Hastings and Marine Drive provide magnificent vistas of sea and mountain, but they need to be improved to make them more effective.

In the development of these features of the park system, occasional stopping places must be provided for motors, but wherever these are placed, they should be so arranged that the motors themselves are kept out of the view. Those who come to such places should be encouraged to get out and walk a few steps at least to outlook points. By proper trimming and planting of trees and shrubs, by walls and steps, terraces and balustrades, the impressiveness of the view may be heightened for those who stand or sit in those special locations.

There are few bits of natural scenery in Vancouver more deserving of protection than the views over English Bay. It will be a great loss to the people of the city if buildings and other obstructions are allowed to fill the space between Beach Avenue and the water. The importance of clearing up the entire shore of English Bay and putting it under public control was noted in the report on pleasure drives and is again emphasized here.

In many places and in various ways throughout the city opportunities may be found to conserve and use the natural beauties of the city's site. Eminences like Little Mountain should be saved for public use, and on such elevations towers or shafts are appropriate. Many streets that run steeply up a hill may be terminated by a school or hospital. It is even better to place a dwelling on the line of such a street than to allow it to come to an inglorious and impassable end in mere nothingness. Sharp slopes of hills may be saved to provide a background of green for the massed dwellings of the lower and more favorable slopes. Water courses, when preserved *au naturel* are not only charming as a relief to the structural monotony of the city, but valuable assets as well. They provide rights of way for the trunk sewers that will later be needed. They become assets rather than liabilities in the districts through which they pass, and create and stabilize property values. They offer space also for active recreation. So it is urged that the city acquire these interesting and generally neglected topographic features while they are obtainable at low cost rather than allow them to become rubbish heaps, dumps and cancerous spots in the urban body.

BUILD A GREAT CIVIC CENTRE.

(Plate 57, Page 240).

The opportunity for grouping public buildings in cities is often considered desirable, both in facilitation of public business and in the promotion of civic art. Where public buildings can be grouped without sacrifice of the functions which they are expected to perform, there is more advantage and economy than if separate individual sites of ample size and of imposing location are to be secured for each building.

In a city such as Vancouver, which is still in the early stages of its growth, and which has natural beauties of unusual character, there is an opportunity for the creation of a civic centre of surpassing merit.

The selection of a site for a civic centre involves several important considerations, among which may be mentioned:

1. Proximity to central business district.
2. Focal position.
3. Character of site and surroundings.
4. Character of buildings comprising the group.

Unless these various considerations are satisfactorily dealt with, the civic centre will be deficient, inconvenient and a source of public dissatisfaction, rather than of justifiable civic pride.

The present City of Vancouver is the centre of a large metropolitan area which has physical characteristics that demand unity of planning and of provision for public services, some of which are already being undertaken by such agencies as the Sewerage and Water Boards. Modern tendencies in municipal government are toward unification of governmental authority in metropolitan areas. It is reasonable to suppose, therefore, that the civic centre should be designed as a permanent centre for the future metropolis.

PROXIMITY OF CIVIC CENTRE TO CENTRAL BUSINESS DISTRICT.

A civic centre should not be located within the central business district, for it is important to secure adequate area without prohibitive cost, and public buildings are an obstruction rather than a benefit in areas of high commercial value. A civic centre is, consequently, best located at the edge of the central business district. It will thus be convenient to the greatest number of people without being obstructive. A location adjacent to, but not within the central business district, will permit withdrawal from intensive traffic congestion—a consideration of some importance to the character and use of the buildings comprising the group.

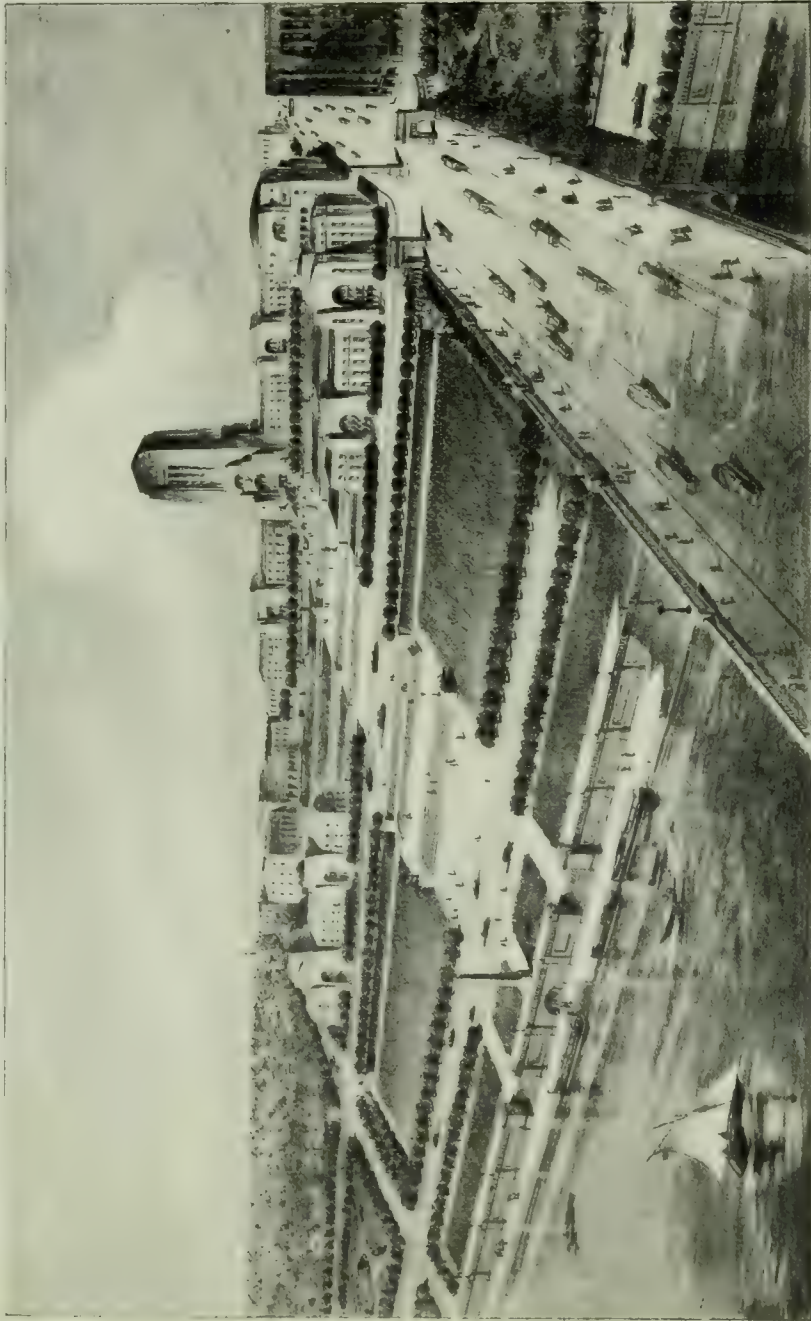
FOCAL POSITION OF CIVIC CENTRE.

Traffic approaching a central business district will use numerous thoroughfares. Certain of these thoroughfares will carry more traffic than others, according to the manner in which population distributes itself throughout the city and region. A location of the civic centre adjacent to such important thoroughfares is desirable in order that the centre may be seen by large numbers of persons who travel daily to and from the business district. A civic centre so located will be a constant stimulus to civic pride. An isolated location, while perhaps satisfying the first requirement of proximity to the central business district, would fail to be a genuine "centre." Where population distributes itself largely to the south and east of a central business district, as is the case in Vancouver, a location of the civic centre north of the central business district would be bad planning.

CHARACTER OF SITE AND SURROUNDINGS.

Where topographic conditions permit the use of high ground for the location of the civic centre, a much more imposing plan can be devised than if the terrain is perfectly level. Low areas should, of course, be avoided. There is sufficient variation in ground level adjacent to the central business district of Vancouver to permit of a commanding location for the civic centre.

The character of surrounding property has considerable significance in the location and in the design of a civic centre. If the surroundings are of an industrial character, or of cheap commercial or residential character, and will probably always remain such,



VANCOUVER
TOWN PLANNING
COMMISSION
1 9 2 8

The CIVIC CENTRE
CITY OF VANCOUVER
BRITISH COLUMBIA

PROPOSED DEVELOPMENT OF THE BIKKARD STREET SITE

BARTHOLOMEW
& ASSOCIATES
CONSULTING
ENGINEERS

Plate 57

the beauty of the civic centre will have to be created through harmonious architectural design of a self-contained group. Where natural beauty exists there will be possible a blending of good architectural design and natural beauty that is most to be desired. Vancouver possesses unsurpassed natural beauty in the proximity of mountains and of naturally beautiful water prospects. These should be incorporated in the design for a civic centre.

CHARACTER OF BUILDINGS COMPRISING THE GROUP.

Ordinarily there are two classifications of buildings that may comprise a civic centre, namely, buildings of an administrative character, such as a city hall or court house, and others of a cultural character, such as an art museum or library. In some cities separation is made between the types of buildings and two centres are created, one administrative in character and the other of cultural nature—the art museum, public library and municipal auditorium.

POSSIBILITIES OF CIVIC CENTRE LOCATION.

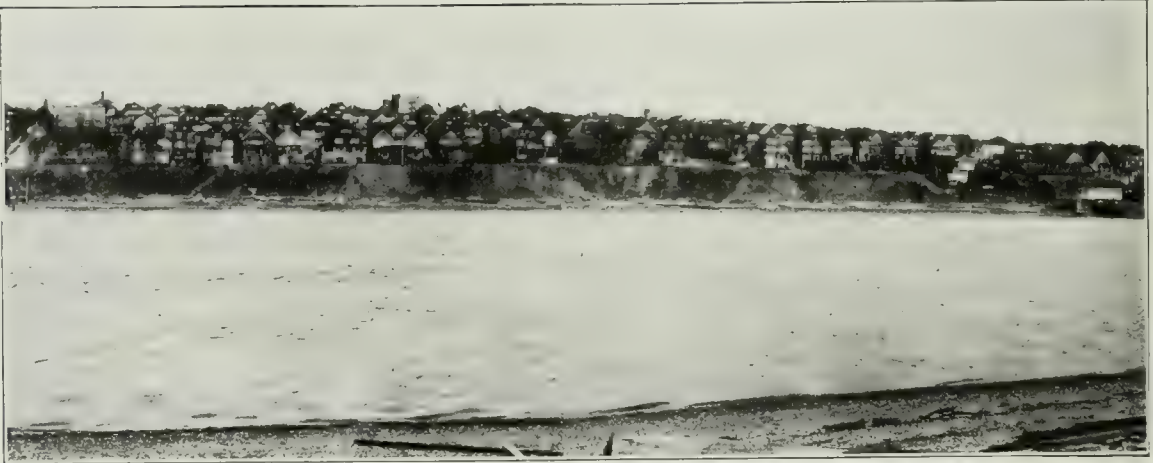
In deciding upon the proper location of a civic centre in Vancouver, having due regard for each of the considerations above mentioned, it is first necessary to determine the size and location of the future business district. As Vancouver grows the business district will continue to expand.

The ideal business district is a gridiron into which traffic from all sections of the city is fed in an uniform manner, the point of entry in the business district corresponding as nearly as possible to the geographical position of the area in which the traffic originates. The present business district of Vancouver is more or less of a gridiron and of ample size to serve the needs of a city considerably in excess of one million population. Certain new entries for purposes of more uniform distribution will be desirable, such as the proposed Burrard Street Bridge and an extension of Kingsway from its present terminus at Main Street across False Creek to the intersection of Robson and Beatty Streets.

It has been suggested that False Creek might be filled and become the central business district, or that the entire business district might shift to the south side of False Creek. Both these suggestions are economically impracticable, in so far as present information indicates. To fill False Creek would be extremely expensive and would involve enormous sacrifice of values now established. Its desirability is doubtful either from a standpoint of economics or a standpoint of practicability. The future of the False Creek area has been dealt with in some detail in the report on transportation.

While some substantial increase in business values and business activities may be expected south of False Creek, this area is not well suited to the future central business district, because of somewhat forbidding street grades and the inherent difficulties of so revising the street structure of the city to make a genuine focus where traffic from various parts of the city could be successfully centered upon some definite area and successfully distributed therein.

Anticipating, therefore, the future development of the business district as being substantially bounded by Burrard Street on the west, Pacific Street on the south and

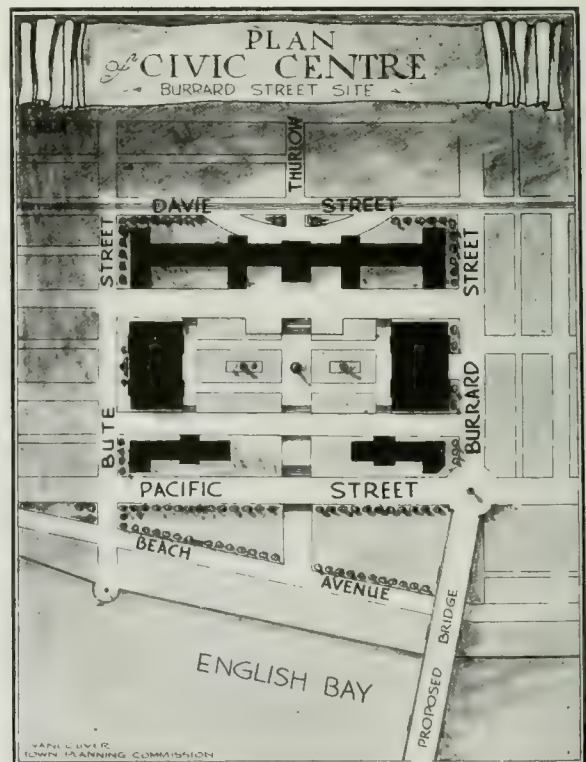


General View of the Burrard Street Civic Centre Site.

extending along Hastings and Pender Streets to the north and east, and applying the principles first expressed above, we may draw the following conclusions:

1. A civic centre should be immediately adjacent to one of the boundaries of the future business district, such as Burrard Street, Pacific Street, Hastings or Pender Streets.
2. The civic centre site should be along the southern or eastern boundary of the business district, since the majority of the ultimate population will live in this direction.
3. The present character of the southern and eastern boundaries of the business district is largely industrial and low cost residential, making it necessary either to rely upon architectural design for satisfactory effects or to reclaim certain portions of this area and thereby establish more appropriate surroundings for the centre.

Theoretically, the ideal location for the civic centre of Vancouver would be midway between Granville Street and Cambie Street Bridges, all of the area between the civic centre and False Creek, including the entire shores of False Creek, constituting one great large park. This would satisfy the four fundamental requirements—proximity to business district, focal position, character of site and surroundings, and the logical location of each of



Plan of Civic Centre.

the buildings comprising the group. There being no hill at this location, however, and the possibility of converting the shores of False Creek into a large park being improbable, if not impracticable, other opportunities must be sought. There are but two other locations which would seem to satisfy the four fundamental requirements. These are:

1. Central School site.
2. The area between False Creek and the top of the hill north of Pacific Street, lying between Granville Street and Burrard Street, and,
Or west of Burrard Street, which will hereinafter be referred to as the Burrard Street site.

CENTRAL SCHOOL SITE.

This site, which has heretofore been approved and popularly considered as the best location for the civic centre, has numerous advantages. It is adjacent to the business district. It lies between the Hastings Street and Pender Street entries to the business district on the north and the Georgia Viaduct and possible future Kingsway entry to the business district on the south and is, consequently, a logical focus. It is on high ground which, however, falls off to the south of Georgia Street.

Its principal deficiency is in its surroundings, particularly to the west and east, where the industries and railroad developments along False Creek will probably forever preclude the development of a proper neighbourhood for monumental buildings. A civic centre at this location would have to be so designed as virtually to turn its back to False Creek and to rely entirely upon meritorious architecture for its aesthetic value. It is not felt that there is sufficient area or that the immediate surroundings are such as to give a proper setting to the buildings proposed for this location.

BURRARD STREET SITE.

This site satisfies all of the fundamental requirements for the location of a civic centre. It is immediately adjacent to the business district. It is focal in position, particularly when considered in connection with the new Burrard Street Bridge and the existing Granville Street Bridge, the latter being the heaviest vehicular traffic entry to the business district, according to the traffic count of 27th January, 1927. The site has a marvellous outlook upon English Bay and upon a large portion of the existing city, although its immediate surroundings are of a low cost residential character and the immediate foreground of False Creek is objectionable.

The ground has a maximum elevation of 190 feet. There are remarkably fine opportunities here for the development of a superb building group. A new bridge is proposed from the intersection of Burrard and Pacific Streets southwest across the mouth of False Creek



Foreshore Development, Montaux, Switzerland.

to serve the entire Kitsilano, Point Grey and University districts. If this bridge is designed in a monumental manner and the shores of English Bay acquired for park and boulevard purposes, as they unquestionably should be, a group of magnificent public buildings could be fitted into this setting in a manner probably unsurpassed in this or any other country. The "Plan of Civic Centre" suggests the area required and the general arrangement of buildings. The time is ripe to start this undertaking by initial purchase of land.

COMPARATIVE COSTS.

A comparison of acreage and cost between the Central School and Burrard Street Sites has been made as follows:

BURRARD STREET SITE:	<i>Area</i>	<i>Land</i>	<i>Improvements</i>	<i>Total</i>
Davie to Burnaby	7.6	\$269,800	\$241,000	\$ 510,000
Burnaby to Pacific.....	15.2	459,600	281,600	741,200
Pacific to Waterfront.....	10.8	314,225	130,300	444,525
	33.6			\$1,626,525
CENTRAL SCHOOL SITE:				
For City Hall and Park.....	5.7	\$1,350,000	\$ 89,050	\$1,439,020
For Auditorium, Museum, Library and Central Park or Square	8.3	599,350	166,950	766,300
	14.0			\$2,205,350

The accompanying plate 56, showing a suggested treatment, was prepared with the advice and enthusiastic co-operation of Mr. G. L. T. Sharp, Vancouver Architect and Chairman of the Civic Art Committee of the Town Planning Commission. It should be emphasized that this drawing does not purport to represent any definite scheme, but has as its object the demonstration of the wonderful possibilities of the site.

HOW TO FINANCE THIS PROJECT.

The Vancouver Civic Centre scheme in its entirety is a project of very considerable magnitude, involving, as it does, the acquisition of considerable property and the construction of a bridge in which aesthetic considerations rival the utilitarian, as well as the erection of the buildings comprising the civic centre group. It will be seen from Plate 55 that the scheme provides for the complete encirclement of English Bay by park development. Stanley Park, the English Bay beach, Kitsilano Park and the two blocks immediately west of the Reserve, recently acquired through the munificence of Mr. Harvey Hadden, of London, England, are already city property. The acquisition of the northern foreshore, south of Beach and Pacific Avenues, between the English Bay beach and Burrard Street, the civic centre site and the entire Kitsilano Reserve remain to be accomplished. The experience of Camden, N.J., in purchasing property for civic centre purposes is worthy of note. The Commissioners purchased, in addition to thirty-five acres required for the civic centre, seventeen acres of adjacent property. Two years later, three of these seventeen acres were disposed of at four times the amount of the original purchase price, with the

important proviso that buildings erected thereon must meet with the approval of Camden's Planning Consultants in respect to their architecture. At this rate of sale the remaining surplus land is expected to pay for the entire civic centre, and the harmonious character of surrounding development is assured.

The establishment of a civic centre is bound to give rise to a substantial increase in property values in its vicinity, and the purchase of adjoining blocks, as an investment, and in order to make possible the architectural control of abutting buildings should commend itself to the earnest consideration of the authorities.

The trend of the property market indicates a steady rise in property values in the area affected by these proposals and immediate negotiation for the acquisition of the property required, or, as has been suggested by some of the owners, the securing of options at existing favourable prices is of first importance. Delay in this respect will jeopardize the full realization of the scheme and may even force its abandonment. A little vision today is capable of securing for Vancouver an asset surpassing by far anything of the kind on the Pacific Coast. It has been suggested that this development is fifteen years in advance of its time. The original recommendations were made less than two years ago and in that time portions of the property affected have increased in value by more than fifty per cent. Without question, the time for action is now.

BUILD BEAUTIFUL BRIDGES.

"There are no structures, other than the great public buildings, which attract more attention, and the location and design of which are of greater importance than bridges."—*Nelson P. Lewis, "The Planning of the Modern City."*

The importance of the Burrard Street Bridge to the success of the civic centre scheme, and of the general development of English Bay, cannot be too strongly emphasized. The bridge will be the most conspicuous unit in the entire project. It will be in the very foreground of every view from English Bay. It will act as a screen to cut off the disfiguring industrial development to the east. It is not too much to say that the treatment of this feature can make or mar the whole English Bay development.

The early construction of the Burrard Street Bridge seems assured. Once built, correctly or incorrectly located, beautiful or hideous, harmonious or otherwise, it is likely to stay. Can the bridge location and design be properly decided without the preparation of plans to determine the general layout and architectural style of the entire scheme, of which the bridge is an integral part? It is the duty of the Town Planning Commission to find an answer to this question and to advise the City Council accordingly.

Considerations which are trivial, viewed in the light of the ultimate scheme, should not be permitted to influence either the location or design of the bridge. The grant of \$200,000 by the Canadian Pacific Railway towards the cost of a bridge carrying a lower railway deck, upon which the Railway Company will have running rights over a long period of years, does not appear to warrant the erection of a bridge, at once unsightly and costly; nor does the avoiding of the British Columbia Electric Railway's temporary development on the Canadian Pacific Railway owned property within the Reserve excuse an unnecessarily long and awkward location for a single deck structure.

What has been said in particular of Burrard Street Bridge applies generally to all bridges in Vancouver. It is hardly necessary to point out the fine opportunity to improve the city's appearance by the construction of well-designed bridges. Vancouver has a number of bridges of unaesthetic design that will have to be replaced. The new bridges should be a credit to the city. This does not mean elaborate and expensive ornaments and

decorations, but merely proper attention to proportion and general effect. For single-deck bridges or viaducts with fixed spans there seems to be no doubt that this can be best attained by the use of concrete.

ALL PUBLIC BUILDINGS SHOULD BE CREDITABLE.

The city has a responsibility, not only in the erection of a civic centre, but in the matter of providing other attractive public buildings and grounds. A beautiful design must be given the building itself and an appropriate setting provided for it. Adequate space and suitable planting are necessary elements of the setting. Where possible, it is a good idea to locate a fine public building where it will terminate a street vista.

An appraisal of the appearance of public schools, libraries, court house and buildings in parks, leads to the conclusion that only the latter have a quality which is fitting. The school buildings, with few exceptions, are not a credit to Vancouver. They suggest that deplorable period in the history of education when none of the practical arts, such as architecture and landscape design, were supposed to have any value in shaping the child's mind. This theory is now generally discarded and Boards of Education recognize the usefulness of pleasing and attractive school buildings in the forming of character and the training



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The Court House, Georgia Street

of future citizens. The Town Planning Commission should urgently recommend that no more factory type units be added to the schools of Vancouver.

The court house is not a building of outstanding architectural merit, but it does have a certain dignity and poise. It suffers somewhat as most single public structures of such design do, from the inappropriateness of surroundings. How much better this grey pile would look if it could be seen among others of like character in a well-balanced group. How well it would show across a stretch of lawn or upon an eminence. In a civic centre each structure contributes to and gains attractiveness from the others. And if the group is on a hill or a slope, and the units are dignified and harmonious and of impressive composition, the effect is everlastingly creditable to the city.

MONUMENTS IN BETTER SETTINGS.

Vancouver has not been moved to adorn herself with monuments, shafts, fountains and other works of this type. The cenotaph in Victory Square is a very conservative and appropriate symbol. The only other monuments of importance in the city are located in Stanley Park, which has become a sort of museum of sculpture and statuary.

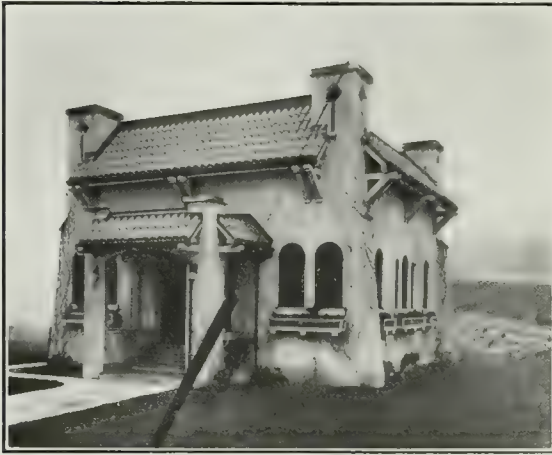
It is not within the province of this report to pass upon the merits of these features in Stanley Park, but a word must be said about general policies governing their placement. A few choice works of the sculptors' art appropriately placed add interest and aesthetic value to a public park. But to use park land and park landscapes for the assembling of regiments of badly assorted stone and metal figures is bad public policy. There are too many statues and monuments in Stanley Park now. There is not one there now that is placed with proper regard for aesthetic principles. They do not improve the park. They do it injury. They would all show to better advantage and the park would be greatly improved if they were relocated and set against backgrounds designed for them.

The city should have many small park areas suitable for monument sites. They should terminate vistas, occupy commanding positions, have dominance over their surroundings, be permitted to tell their story without disturbance, make positive contributions to the adornment of the city. Traffic circles with shafts or fountains, plazas in front of schools, with pools and balustrades and walls carrying inscriptions or bas-reliefs, all such, when well done, add tremendously to the impressiveness of the city. More of the wealth which is created by the commerce and industry of Vancouver should go into these things. The culture and taste of the people are not well reflected by its present aspect.

COMMERCIAL AND INDUSTRIAL BUILDINGS.

STORES.

As stores, factories and homes comprise the vast majority of buildings in the city, their effect on the appearance of the city is, of course, correspondingly great. The scattering of stores promiscuously throughout residence districts has done considerable damage to the city's appearance. The nearly universal custom of building stores out to the street line has hurt the appearance of a good many residence streets and at the same time has injured adjoining lots by making them less desirable for living purposes and reducing their saleable value. The zoning by-law will remedy this condition and tend to prevent residence districts from becoming blighted. Wherever a commercial district under the



An Appropriately Designed Transformer House in a Residential Neighbourhood.

come a credit to the neighbourhood which they serve. Certainly the corner store need not be the ugly object that it commonly is.

There has been some improvement in the architectural treatment of down-town store fronts of late. This is a matter over which the public has no control, but credit must be given for the attractive departmental stores recently erected, for they vitally affect the city's appearance and the impression carried away by the stranger. Co-operation by individuals and a reliance on the advice of architects will bring improvement.

EVEN FACTORIES MAY BE IMPROVED.

The modern idea as to the exterior appearance of factory buildings is to put a little thought and care on this matter at the same time that the inside of the buildings is being carefully planned. Factory managers are getting away from the idea that their works must be ugly and repulsive structures. There is certainly a definite place for attractiveness in this field. There is an advertising value in pleasing industrial structures. Dark, dingy interiors and ugly exteriors are depressing. Well-planned buildings and green outside in the form of grass, vines, shrubbery and trees do a great deal to stimulate pride among workers. There is an incentive to follow the example and fix up the home grounds. All this helps make the employee a better citizen and incidentally improves the appearance of the city. A modern building of the factory type which has attracted attention to its appearance is that recently erected by Swan Bros., Sharp & Thompson, Architects.

THE RAILWAY GATEWAY SHOULD BE IMPRESSIVE.

In the transportation section of this report the advantages and disadvantages of a union passenger terminal are considered, and recommendation made for the future provision of facilities which would take care of all the railways entering the city.

The present terminals in Vancouver compare favorably with those in other cities of similar size. The Canadian National and Great Northern Railway Stations are provided with appropriate surroundings which might well be developed into an impressive scheme to be utilized by all the railways entering Vancouver.

PART III.

STREET DESIGN.

If the ways and means by which more agreeable surroundings may be produced are analyzed, it will be found that an attractive city depends largely on (1) attractive streets, and (2) attractive buildings and grounds, parks and other open spaces, namely, whatever is seen from the streets. The appearance of the streets themselves and of the parks and other open spaces is largely in the hands of the city government or subject to their guidance. The appearance of buildings and grounds, on the other hand, is partly in public, but largely in private, control. This classification is arbitrary and of use only for the purpose of analyzing the subject under discussion. The aim of this phase of the town plan is to formulate a programme for the improvement of the looks of Vancouver.



Boulevard Planting.

The design of streets has a notable bearing upon the city's appearance. A narrow street where a wide one belongs is obviously a mistake. A broad expanse of pavement on a purely local residential street robs the neighbourhood of the restful, homelike character that appeals to the average home-owner. The proper proportioning of streets so that roadways will be wide enough on major streets, and all grass and tree space will not be absorbed by pavement on residential streets, is a matter which can now be controlled by adherence to a functional street plan.

STREETS, CURVES AND CURBS.

Street intersections also deserve notice. Where two streets intersect at a sharp angle, the corner should be well rounded. A radius of from twenty to twenty-five feet at the curb line is needed for this purpose. This may mean putting a curve on the property line at the corner, a plan to be followed generally when new subdivisions are laid out. The object is mainly safety, but appearance gains, too. Sharp curb corners at present spoil the looks of many streets in Vancouver.

Sometimes, where more than two streets intersect at or near the same point, or where a slight jog occurs in one of two intersecting streets, carefully enlarging the intersection will make it safer and at the same time much more interesting and attractive. Forethought exercised when land is subdivided results usually not only in added safety and attractiveness for the public, but better property values adjacent to the corner which is given individual treatment.

Street alignment, too, is worthy of note in this connection. This really goes back again to the subdivision of the land. In Vancouver, wherever it has been necessary to change the direction of a street, it has been customary in the past to introduce an angle in the street, taking up all the change of direction at one point. Far more street attractiveness, as well as better shaped lots and greater traffic safety, would usually have been produced in residential sections if long radius curves had been used in place of angles.

When parkways or boulevards are laid out, special interest in the street view may be secured without expense by the deliberate introduction of occasional long curves, even where the contour of the land does not demand a change of direction. Such curves are



A Pole Designed to Carry Street Lighting Fixture and Power Wires, as Well as Acting as a Support for Street Railway Wiring.

more adapted to the flow of motors, and are consequently more satisfying than angles. Though already used to fine effect in numerous subdivisions outside the city, there are still wonderful possibilities in the use of curved streets for local residential use. On hilly land they are absolutely necessary as a practical matter; on land less rough, curved streets here and there throughout the city undoubtedly increase its attractiveness.

POLES, WIRES, LIGHTS, ETC.

It is not within the scope of this report to consider in detail all the items mentioned under this sub-heading. But they are matters that should be carefully considered by the various civic departments. While the location of poles and wires on the city streets is under franchise arrangement and not entirely under control of the city, every endeavour should be made to forward their ultimate removal. The effect of beautiful buildings and well-planted boulevards is in a great measure nullified by these

ungainly and unsightly erections, as a reference to nearly every illustration in this report will clearly show. Where it is impossible to place wires underground, they should be located along lanes or easements.

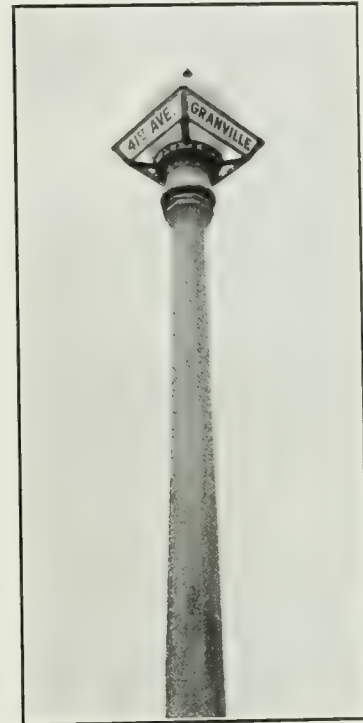
Street lighting has, in the past few years, received a great deal of attention, and methods of lighting and design of standards leave but little to be desired. Vancouver has made some progress in modern street lighting in recent years. The work of lighting all the major thoroughfares should go on as rapidly as possible. On car line streets steps should be taken to combine the light standards and trolley wire supports in one fixture so as to eliminate one set of poles.

In the past a great deal of complaint has been made as to street signs in Vancouver and vicinity. With the coming into being of the new city, there will be needed a certain amount of renaming of streets.



Disfiguring Poles at the Beach Avenue Entrance to Stanley Park.

As pointed out by Mr. Walter Deptford, a member of the Town Planning Commission, the same name has been repeated as many as five times in the City of Vancouver and adjoining municipalities to designate different streets. Those streets that are numbered are frequently designated by different numbers in different municipalities, for example, Forty-First Avenue in Point Grey becomes Forty-Third in South Vancouver, and eventually Forty-Second. When these anomalies have been rectified, the question of street signs should then be given serious attention. The accompanying photograph shows the latest street signs in connection with the street lighting system as used in Point Grey, a type found to be very satisfactory.



Ornamental Lighting.

SIDEWALKS IN RESIDENTIAL DISTRICTS.

The placing of sidewalks at the curb on residential streets is not good planning, though it has already been done in Vancouver at the request of interested owners. This practice is dangerous to children playing on the sidewalk who may unintentionally step off the walk in front of an approaching automobile; it allows the pedestrian in rainy weather to be splashed by a passing vehicle, and does not permit of an ample planting strip, that, for appearances, should be provided, not only for grass and trees, but in a climate such as Vancouver enjoys, for flowers as well.

STREET CONTROL.

SIDEWALK OBSTRUCTION.

From the standpoint of the pedestrian's rights, and also for the sake of appearance, sidewalks should be free from obstructions. Loading and unloading of goods temporarily on the sidewalk is usually not very objectionable. The use of sidewalk space for storage or for showcases or advertising matters calls for police action. Vancouver is fortunately free from the gasoline curb pump, an obstruction to both pedestrian and vehicular traffic.

OVERHANGING SIGNS.

It is understood that in Vancouver the only overhanging signs permitted are those that are electrically illuminated, though the further control as to the size and amount of projections might be desirable.

BILLBOARDS.

Under the zoning by-law, no billboards are permitted in residential districts. Further control in other districts might be advisable, but the billboard companies cannot be expected to co-operate in such matters as long as building owners permit signs to cover great wall spaces.



*Bad Boulevard Planting.
The Result of Individual Efforts, Without System.*

In the early days tree planting was carried out by interested citizens, but without regulation or scheme. Unsuitable and varying types of trees, poorly spaced and arranged have resulted in the present more or less undesirable appearance of streets where planting exists, and has also resulted in very considerable inconvenience, as outlined in a report by Mr. W. S. Rawlings, Superintendent of the Parks Board, under date of 8th January, 1926.

STREET PLANTING DESERVES THOROUGH CONSIDERATION.

RESIDENTIAL STREETS.

For years the Parks Board has urged systematic planting on residential streets. In 1909, trees suitable for street planting were purchased in England, several thousand young seedling stock being planted in the Stanley Park nursery. The trees were ready for street planting before any scheme was worked out and considerable loss of trees resulted and no uniform scheme of planting in any block was made effective, though citizens were supplied with trees without any charge.

Charter powers for the City of Vancouver have been obtained to regulate the operation and maintenance of "boulevards" under a frontage tax, but no action has been taken by the Council, though again in 1920 the Parks Board purchased 5,000 trees, and these trees were ready for planting two years ago and certain blocks in the city were planted as a trial demonstration.



Bad Street Planting.



Good Street Planting.

Mr. Rawlings draws attention to the system in vogue in Victoria, and states:

"Probably the finest example of systematic boulevarding in Canada is to be seen in Victoria, and it is doubtful if it can be excelled on the American Continent. Those interested in this method of city beautification would be well repaid if they paid a visit to Victoria and made a tour of the city and residential districts.

"This system has been in force for a number of years now. I understand criticism had to be faced at the outset in regard to the clean sweep that had to be made ere a permanent planting scheme could be put into operation. That the policy was a wise and proper one none today can doubt. The construction work, including planting and seeding, was carried out under the local improvement plan and maintenance costs are chargeable under a frontage tax, similar to the powers which we have in our charter.

"Another excellent example of systematic boulevarding is at Winnipeg, where the frontage tax for maintenance is in operation. At Calgary, under very difficult and adverse conditions, their well-planned and neatly maintained boulevards are a credit to the city.

"If a policy for the definite and permanent boulevarding and planting were laid down and carried out, in a few years hence we would have a system which would not be excelled anywhere in Canada. The evidence for this statement is what can be seen today in Victoria."

Undoubtedly a scheme similar to that in Victoria should be established in Vancouver and a by-law to accomplish this is now being considered.

APPROACH TO STANLEY PARK.

Particular attention should be given to the planting on Georgia Street from Granville westerly to the Stanley Park entrance. This street should either be planted uniformly throughout, or all trees removed and shrubs established between sidewalk and curb. This street is too important to be allowed to remain long in its present state. It needs a uniform treatment.

The entrance to Stanley Park could be considerably improved as to convenience and appearance by providing a pedestrian tunnel under Georgia Street and marking by planting, development to the east of the entrance, by removing buildings on the Lagoon in the vicinity of Georgia Street, and, if necessary, by building suitable structures further south of the Lagoon.

Coal Harbour, in its present state, is a serious disfigurement of Stanley Park, and every opportunity should be taken to acquire property on the north side of Georgia Street as far east as the Auditorium. It would greatly change the view from within the park if the private structure on the axis of the bridge at the corner of Georgia and Chilco could be redesigned with a lower or more satisfactory exterior, or removed entirely. The park suffers from these bordering structures.



Street Planting, Victoria, B.C.

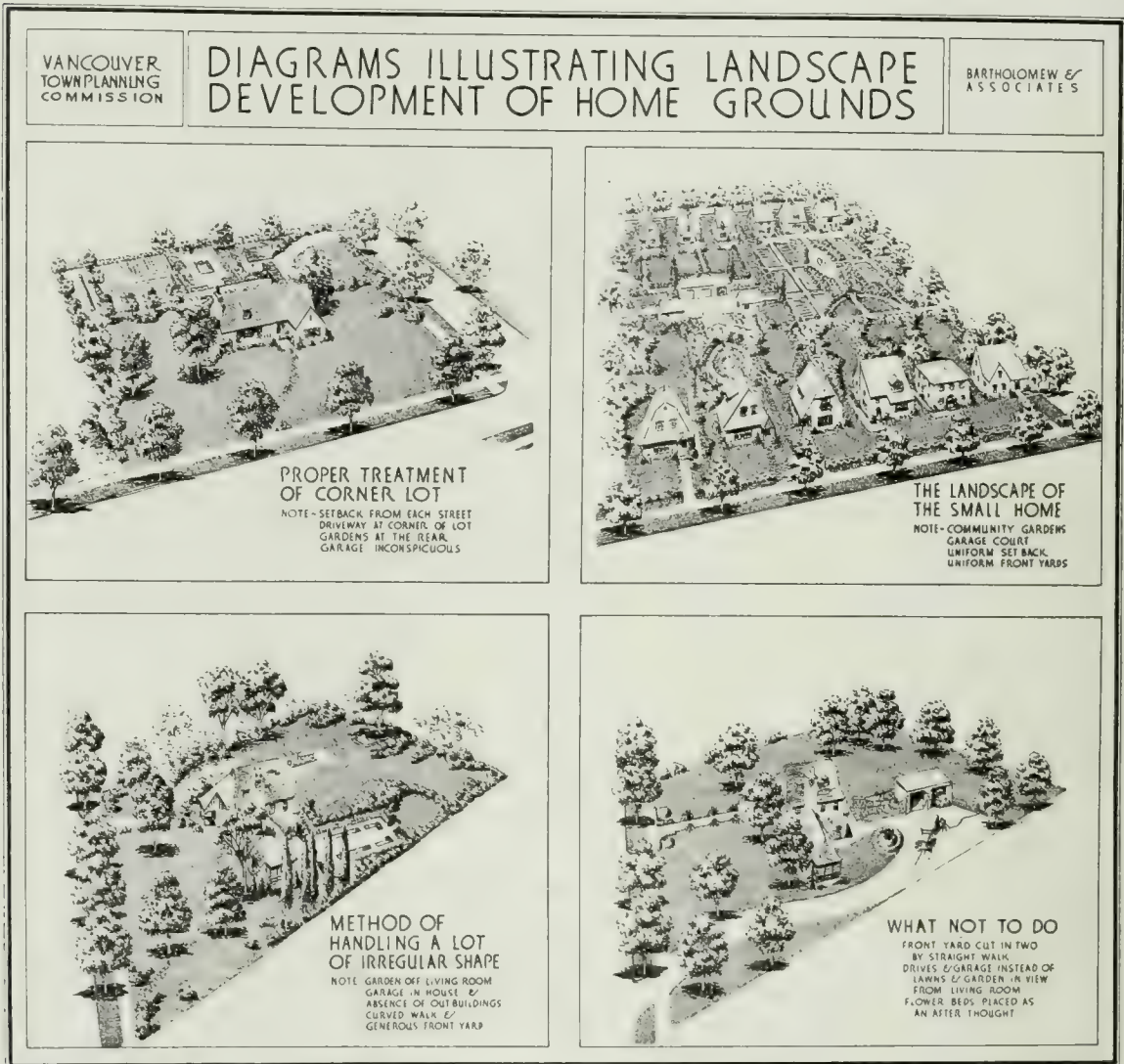


Plate 58

HOME GROUNDS CAN BE GREATLY IMPROVED. (Plate 58).

I. HOMES.

Observations have been made regarding some of the ways in which both private individuals and public authorities have it in their power to contribute appreciably to the attractiveness of the city. Nothing has yet been said about the private home. Probably no single factor is of greater importance in this respect. The great bulk of the city's area is devoted to private dwellings. The individual responsibility of each home-owner in producing and maintaining an attractive city is at once apparent.

The mixture of architectural types and styles, and the haphazard placing of buildings of all sizes along the same street, is responsible for the disturbing effect found on some streets of Vancouver. This is a matter that is subject to no control other than public taste. Where each individual develops his own property, he naturally does that which appeals

to him. Through education a gradual improvement of public taste should certainly be sought. What Vancouver needs is an agreement as to a style of building that is at once aesthetically pleasing and adapted to local climatic conditions. The half-timber house should be studied and advocated by the local architects, for it seems to be appropriate to these surroundings.

The zoning by-law is of some help in preventing serious jumbling of building types. Under its provisions certain districts are being developed only with one-family and two-family houses; no apartments, boarding houses and so on are permitted. Furthermore, only buildings of two and a-half storeys or less in height are permitted in such districts. Front yard lines are being enforced in all residence zones, thereby assuring observance of the desire of the majority of home-owners who prefer to have attractive front yards. These provisions are all based on protection of health and property values, but their effect in improving the city's appearance is evident.

Provisions of the zoning by-law will prevent the erection, under ordinary conditions, of garages or other similar buildings near the street line. Ordinarily, these will be placed at least 60 feet back from the street line. Suitable provision is also made for corner sites, so that appearances need not be sacrificed.

2. PLANTING.

In addition to producing a smooth, weedless lawn, the average home-owner wishes to dress up his house and yard with shrubs, flowers, vines and trees. If all the homes in Vancouver that are bare of planting were to have a bit of attention along this line, the city would assume a vastly improved appearance. Almost any kind of planting is better than none at all, but of course there are good and poor ways of arranging the plant material.

This is far too big a subject to attempt to discuss in any detail in a report. An abundance of information is available elsewhere for those who seek it. It may be helpful, however, to list briefly a few of the fundamentals, the observance of which is essential to successful planting of the home grounds:

1. Keep shrubs along border of yard and against foundation of house. The homes of Vancouver suffer severely from lack of foundation planting in scale with the house.
2. Avoid use of round flower beds in lawns, hot water tank flower boxes, rubber tire effects and other freakish displays.
3. Make sure that plants placed in the shade are the right sort to grow there. Some plants thrive in the shade, others dwindle and die.
4. Hedges are meant to serve as walls or fences. A hedge-like row of shrubs of the same kind and the same height planted around a front porch or along a house wall produces monotony.
5. In planting against a porch or against the house itself, let certain portions of the foundation remain open to view practically to the ground. Vary the heights of shrubs, placing more shrubs and taller-growing ones at the corners and leading away with lower-growing ones. A tall house needs tall shrubs. Flowers belong in outer borders.

6. Some shrubs and trees make good "specimens," that is, they have interesting forms and can be used to advantage singly to produce special effects. Most narrow-leaved evergreens belong to this class. Never spot up a lawn with such plants, however, and never plant a row of them around a house. Use them sparingly and rely on mass planting of shrubs in most places.
7. Every lot should have one or two shade trees. If there is a street tree close to the lot and the lot is small, it may not be best to provide another tree at the front of the house. When possible, arrange for the trees to enframe the house when seen from the street. It will improve the effect.
8. Find a sunny place along the walk or foundation for the flower bed. A lawn looks best when left open for as broad a space as possible. Flowers look well backed up by the green of shrubbery.
9. One or two vines should climb the porch or the side of the house. It is unnecessary to plant many vines.
10. It will pay to plan the planting layout for the lot on paper or have it done for you before doing the actual planting. Relatively few plants are needed to improve a small lot 100 per cent. in appearance, and a plan will make it possible to arrange these to the best effect.

3. VACANT LOTS.

Vacant lots are scattered more or less through every city. There is a tendency for these spots to be neglected by their owners, who often live at a distance from the city, and who, perhaps, have no agent to assume responsibility for their upkeep. The care of vacant lots constitutes an important factor in the city's appearance. Citizens should co-operate to discourage all attempts to use these vacant areas as community waste baskets for the piling up of paper, tin cans, bottles and other refuse.

CONCLUSION.

If a town plan is to be really effective it needs the co-operation of every citizen as well as of the civic officials. The object of this particular civic art report is to show in some detail how the city's appearance can be improved through the aid of each citizen by keeping home grounds attractive and urging that other matters mentioned in this report should be thoughtfully considered by civic officials. By supporting measures and methods for making a more efficient city, as well as for increasing the city's attractiveness, and also by direct assistance as individuals in improving the appearance of the particular property which they happen to own, the people of Vancouver can gradually make their streets, parks, buildings and grounds so attractive that their city will be second to none in appearance.

EXECUTION OF THE PLAN

With the publication of this volume a more or less definite plan for the City of Vancouver has been laid down for the next thirty or forty years. Many projects of varying character are proposed. Some will require many years to complete and will involve considerable expense. Other projects can be completed at reasonably small expense in the near future. There follows on page 264 a programme of the order in which various projects constituting the plan should be undertaken.

This programme represents an orderly system of procedure and a presumed balancing of costs that will prove to be more economical than has been customary in the past or than can be expected in the future if there were no city plan.

FUNDAMENTAL ECONOMY OF PLANNING.

A city is always spending money on public improvements. As a city grows in size, improvements become more numerous and more costly. It is important that there be a balancing of various kinds of improvements as well as a consideration of the time factor within which all these improvements should be undertaken. If a city absorbs all of its bonding power for schools and water, as some have done, the city will soon be out of balance socially as well as economically. It will have deprived its citizens of fundamental needs in sanitation and in recreation. It will have postponed the undertaking of street openings and widenings, public buildings, parks and recreation, until prices of land have become prohibitive or excessively high. To prevent this sort of unbalanced and unwise community growth is the fundamental purpose of a city plan. No unnecessary or extravagant projects are proposed in the city plan. It is merely a study of the entire city with respect to such fundamental necessities as streets, transit, transportation, zoning and public recreation. In so far as public money is to be spent, the city plan by reason of comprehensive analysis prevents the unwise mistake of not considering all such needs, a mistake that would assuredly otherwise occur. A city plan does not comprehend all public needs, such as drainage, schools, eleemosynary institutions, and the like. The presence of a city plan, however, makes possible immediate consideration of all types of public improvement embraced in the city plan when public budgets and debenture issues are under consideration.

A brief examination of the projects comprising a city plan soon dispels the idea that it is a municipal extravagance. Zoning, for instance, involves no capital expenditures and almost negligible current expense. A transit plan involves no public expense, since re-routings, extensions or other rearrangements are undertaken at the expense of the operating company. The transportation plan is carried out largely at the expense of the railroad companies. The city may share in the cost of grade crossing eliminations, but in so doing it may proceed with the assurance that these crossings are wisely located at major streets according to the city plan. Under the laissez-faire policy of spasmodic grade separation, public expenditures would probably be greater and much less satisfactory results would be secured, both from the standpoint of public safety and that of accommodation to the largest volume of vehicular traffic.

It has already been shown that the civic centre proposed in the present city plan is both cheaper and aesthetically far superior to all proposals previously made. It will undoubtedly be no more expensive than the purchase of separate sites for each of the buildings if dispersed throughout the city. By following this plan the city will probably spend less money for public building sites, while it will reap the advantages of facilitation of public business and the most impressive locations for its public buildings.

If, then, the four principal elements of the city plan, i.e., transit, transportation, zoning, and the civic centre, involve no new or unusual public expense, and, in fact, can be undertaken with advantage and with economy because of the city plan, what about the two principal remaining elements, major streets and public recreation? In regard to the latter, it has already been shown that the early acquisition of future park areas, ahead of settlement, constitutes great savings and justifies debenture issue for present purchase at a low cost per acre. In other words, a well-studied recreation plan will result in much more park acreage, more appropriately located and more economically acquired than if there be no plan. We are thus left to consider those problems that are involved in the making effective of the major street plan – the widening and extensions of existing streets. Where areas have not yet been subdivided, new major streets will be acquired without cost. An example of this is found in the case of the 100-foot street to be dedicated by the provincial government in a new proposed subdivision adjacent to the present Grandview Highway.

The major street plan is presumably one of the most expensive parts of the city plan. The expense involved is for readjustment of existing streets, necessitated entirely by original bad platting. A fundamental economy of the city plan is that it will hereafter prevent expensive mistakes of this character. The cost of correction of present difficulties will vary with the degree of vision exercised by the present generation. The automobile is here to stay. Its number will constantly increase and our streets will have to be made to conform to its needs and requirements. This means that certain existing streets will have to be extended, opened and widened. This must be done whether there be a city plan or not. Without a plan, many ill-advised and improperly conceived projects will be undertaken. Their cost will exceed the cost of a wise plan gradually undertaken. To delay or postpone is to invite greatly increased cost, for land adjoining these major streets rarely, if ever, recedes in value. Rather, it is always increasing in value, on some streets more rapidly than on others. In this, as in other elements of the plan, there is fundamental economy in the adoption and enforcement of a comprehensive plan, although the time factor and the methods of financing used will materially affect the total cost. This is the subject of further discussion below.

METHODS OF FINANCING PUBLIC IMPROVEMENTS.

Almost without exception, cities are more or less short of public funds, particularly for meeting the cost of large public improvements. Each successive city administration is usually confronted in all cities with the complaint that “taxes are already too great.” Generally speaking, the larger the city grows the greater becomes the demand for funds for an increasing variety of purposes.

Public funds are raised through taxation for two fundamental purposes, i.e., (1) Maintenance and operating expense that is usually a more or less uniform annual amount, and (2) Capital expenditures for permanent improvements that fluctuate widely in

character and cost. Since, in the last analysis, both costs come out of the pockets of the taxpayer, it can readily be seen that taxation, particularly for capital expenditures, will be excessive in certain years unless there is comprehensive financing, based upon the full knowledge of all public improvements which involve capital expense. There can be no such comprehensive financing nor full knowledge of all public improvements without a comprehensive city plan. If there be a comprehensive city plan, a more or less definite programme can be prepared, such as that suggested on page 264, and a comprehensive financing programme can gradually be worked out that will permit of the most economical procedure within reasonable and uniform rates of taxation.

Public funds are normally secured as follows:

1. From the annual tax duplicate.
2. From debenture issues.
3. From special assessment tax levies.
4. From acquirement and sale of excess lands abutting public improvements.

A brief description of each of these methods of raising funds, with particular reference to various elements of the city plan, is included below.

(1) FUNDS DERIVED FROM ANNUAL TAX DUPLICATE.

Funds derived from annual tax levies are usually devoted to maintenance and operating costs of the city government and for the payment of principal and interest on debentures. Funds derived directly from annual taxation are rarely used for financing capital expenditures directly, except only in the case of small improvements which involve very little cost.

(2) DEBENTURE ISSUES.

Debenture issues are the most commonly used forms of financing large public improvements. Many cities have made the mistake of relying too heavily upon this form of financing, have been too careless in prorating debenture issues more or less uniformly over a given period of years, and too often have issued long-term debentures for short-lived improvements. As a check upon all wasteful methods, an act of the provincial legislature limits the debentures that may be outstanding at any one time to twenty per cent. of the total assessed valuation of property within the city. Vancouver, consequently, has a debenture limit of twenty per cent. This is most liberal. A great majority of cities in the United States enjoy only a five per cent., or, at most, a ten per cent. limit.

Debenture issues are needed to finance several important elements of the city plan, notably street opening and widening, railroad grade separations, parks, and public buildings. In very few instances, however, should either of these classes of improvements be financed completely by debenture issues. In the case of street opening and widening, and of parks, for instance, there will be enhancement in value of abutting and adjoining property, which enhancement in value should be recovered by special assessment of benefit. Only so much of the total cost as cannot be recovered by special assessment of benefit should be borne by the city at large through debenture issue. In the case of railroad grade separation, a portion of the cost will be borne by the railroads, possibly a portion by benefitted private property, and the remaining cost only should be absorbed by debenture issue.

In view of the limit of debentures that can be issued by the city, and in view of the numerous forms of capital expenditure not related to the city plan that must be financed

from debenture issues, such as water supply, hospitals, and the like, it is important that public improvements involving benefit to private property absorb only so much of the city's debenture limit as can be financed in no other way.

(3) SPECIAL ASSESSMENT FOR BENEFIT.

Many public improvements produce considerable increment in value in abutting and adjoining property. This is especially true in the case of street openings and widenings. One of many notable illustrations of this has been the widening and extension of Michigan Boulevard in Chicago. Its cost was \$14,000,000. Property values in the vicinity have enhanced in excess of \$100,000,000. Obviously, it is unfair to finance a project of this character wholly or even largely by debenture issue, thus in effect assessing the owner of a small home in an outlying district in the same relative proportion as an owner of property abutting the improvement and whose value has been very greatly enhanced. Much of the major street plan and portions of the park plan, grade separation plan, and possibly even the civic centre plan, can be financed through the levy of special assessments for benefit and without unduly increasing the city's debenture obligations.

In the use of this method of financing public improvements, however, exceedingly great care must be given to the study of individual improvements in order that great injustices may be avoided. No general rules can be laid down or arbitrarily followed. The proportion of cost that can be assessed in any specific instance must be studied carefully in the light of existing conditions in the particular district. A park or a 100-foot street in one district may enhance values very much more than in another district of quite different character. Many cities have found a permanent assessment board of great value in the use of this most important method of financing public improvements.

(4) ACQUIREMENT AND SALE OF EXCESS LANDS ABUTTING PUBLIC IMPROVEMENTS.

In making certain public improvements, such as the opening or widening of streets, acquirement of parks, and the like, the City of Vancouver may acquire the whole or part of any lot adjoining or adjacent to such improvement and upon completion thereof may dispose of the remaining unused portions of land. European cities have found this authority exceedingly advantageous both in bettering the character of the improvement itself, through encouraging appropriate development of abutting property, and through whole or partial recovery of the cost of the improvement by sale of the remaining property at favorable prices. Vancouver has not taken advantage of the powers it now enjoys in this respect. In the carrying out of the city plan there will doubtless be a number of opportunities for the advantageous use of this authority.

CARRYING OUT THE MAJOR STREET PLAN.

In common with most other cities on this continent, Vancouver is coming face to face with the problem of adjusting its street plan to the modern automobile age. A constantly increasing number of machines has been and will continue to be thrown upon the surface of the city's streets. This traffic was not anticipated when the street plan of the city was laid down by successive owners of land in carrying out their respective subdivisions. All cities are contending with this problem, including ways and means of financing the cost of comprehensive programmes of street opening and widening. It is believed that a special discussion of this problem is here necessary.

BUILDING LINES.

Obviously, it is impossible for a city to readjust its main thoroughfare system immediately to the needs of the automobile age. It is not necessary for the city to acquire and widen all of its major streets immediately. Some projects, to be sure, such as the Pacific Street-Cambie Street distributor street, need to be carried out almost immediately. Many other projects, however, can be postponed for a period of ten, fifteen, or even twenty years. On these, however, it is important that new buildings should be required to conform to future street lines. If this is not done, many projects will be rendered prohibitive in cost and the city forever committed to thwarted traffic movements and stultified business conditions in certain sections.

Wherever immediate action is not necessary, building lines should be established for the regulation of new structures. On ninety to ninety-five per cent. of the frontage of major streets, buildings already are set back to the future street lines, and no hardships will occur. In the remaining instances where buildings are already erected to the present street lines and recession would be a hardship upon a new builder, or where such a building line would operate harshly upon the owner of a lot of restricted size, some adjustment should be made.

For several years there have been two schools of thought as to the most equitable and reasonable manner in which building lines as a first step in the accomplishment of street widening projects could be equitably established and enforced. One point of view has been that there should be a preliminary expropriation proceeding with compensation. The impracticability of this method has been demonstrated, since only one city of importance has ever succeeded in establishing its major thoroughfare plan.* The very thought of expropriation, in no matter how limited a degree, sets up in the minds of both the owners of property and of the party engaged in the determination of damage, the fact that there is substantial damage. The building line being of potential rather than actual immediate benefit necessitates complete absorption of the damage by the municipality, which obviously has no available funds for meeting such cost and no hope of ever recovering amounts so expended. This method of procedure consequently falls of its own weight, as has been shown by universal experience.

The more modern and reasonable point of view that is already in operation in many cities corresponds to the same philosophy that has produced and sustained zoning practices. The automobile is a new instrument of great value and usefulness to man. It has produced great changes in city life. Its successful employment demands more continuous and wider streets, i.e., a major street plan. Since a city cannot widen all of these streets at one time, it is a reasonable practice to establish building lines to prevent costly encroachments and to protect the possibility of gradual future widening. If, in the exercise of this power, there is hardship in individual instances, there may be individual adjustments and modifications granted by a board of appeal, precisely as in zoning. Such modifications and adjustments should, of course, be undertaken in accordance with the spirit of the plan to protect its fundamental purpose and intent, and at the same time prevent unnecessary hardship or inequity. There are no profound difficulties in this procedure. They will be found to be more apparent than real.

A careful study should be made of all major streets and a definite building line established for the widening of each. This plan should then be undertaken either as a separate ordinance or as a part of the comprehensive zoning plan. Fortunately, under existing legislation, Vancouver now enjoys sufficient authority to do this.

*Minneapolis.

A PROGRAMME FOR CARRYING OUT THE MAJOR STREET PLAN.

Following the preparation and establishment of building lines on major streets, there should be definite determination of the cost of all street openings and widenings. There should be prepared also preliminary estimates of the amount of total cost that could be assessed as benefit and of the remaining cost to be paid by the city at large. The sum of these total costs to be borne by the city should be definitely set up as a capital expenditure to be financed over a period of from twenty to fifty years. Debentures for individual projects or for groups of projects should be issued from time to time as the Council may determine.

LEGISLATION.

Fortunately, Vancouver now enjoys remarkably good legislation for carrying out a major street plan. It may levy assessments for benefits without the imposition of arbitrary regulations and rules that hamper the use and enjoyment of such authority in many cities. It may spread the cost of assessments over a period of fifteen years, which is most reasonable. Acquisition of property and of improvement cost may be combined in a single proceeding. The only serious handicap of any importance apparently restricting the ability of Vancouver to carry out a comprehensive city major street plan is the provision that a one-third petition of property owners may prohibit the Council from proceeding with a particular project. Legislation of this character formerly existing in many territories, such as California, has been repealed in so far as it applies to city-wide projects, such as major streets. As suggested by Comptroller Pilkington, improvements of this nature should be subject to public hearings only, as, for instance, in the case of a zoning by-law.

PAVING COST.

Official adoption and gradual execution of the major street plan will lead to more or less definite financial procedure with respect to paving cost. In other cities this has resulted in the establishment of a policy whereby the city participates only in paving costs upon major streets, and this only to the extent of the inability of abutting property to assume the cost thereof. Even under such a logical procedure, the city's share of paving becomes a substantial sum each year because of the large mileage of major streets that can never be absorbed for commercial purposes and upon which, consequently, the abutting resident owners can only reasonably be assessed amounts more or less corresponding to the cost of improvement of a local minor street. St. Louis and numerous other cities are financing the city's share of paving costs through such a procedure, the actual funds for the city's share of the cost, however, being derived largely from a gasoline tax, although to some extent debenture issues have been resorted to for this purpose.

PERFECTION AND EXTENSION OF THE PLAN.

Directing the growth of a great city is no small task. It is a work requiring constant study and attention. The present plan is in the nature of a master plan. While complete in its detail, in many respects there is still much to be done. In fact, the work of the Commission has but just begun with the completion of the master plan. This plan must be extended to include the territory of South Vancouver. There must be harmonization of the plan with that of Point Grey, a task which presents no major problems but which does involve a certain amount of detailed labor.

DUTIES AND FUNCTIONS OF THE TOWN PLANNING COMMISSION.

Vancouver is destined to grow rapidly. Growth presents problems that require constant study and attention. It is the duty of the Town Planning Commission as of no other agency to keep careful and accurate records of this growth, testing from time to time the adequacy of the present plan and making necessary readjustments. There should be annual traffic counts, a careful record of the character and location of all new structures, analyses of population densities and shifts, and much similar information. The present plan is not complete in detail as to the platting of new lands or the replatting of lands now improperly laid out. In this and similar fields the Town Planning Commission can become a body of ever-increasing usefulness and value to the community. As specific street opening and widening projects are proposed, careful studies of the cost and efficacy of alternate schemes should be made. This is peculiarly the function of the Town Planning Commission. A complete though preliminary estimate of the cost of all major street projects should be made, together with a determination of the areas of benefit and of the city's share of the cost.

As opportunities for new work present themselves through debenture issues, the Town Planning Commission will be able to give the most valuable advice as to the relative need of various improvements, thus encouraging the wise expenditure of public funds and the prevention of unwise and misplaced improvements. This is of special importance in a city that has been so widely dispersed as Vancouver through the vast premature platting of so much of the land on the Burrard Peninsula.

The Town Planning Commission can be of great help to other city departments. It will be in a better position to make comprehensive studies of growth and location of physical plant than can many of these departments themselves. A school location survey, the placement of fire stations, the naming and numbering of streets, and the readjustment of city boundaries, are all matters well within the province of the Town Planning Commission. In the same way much help can be given to private individuals and organizations. In other cities the Town Planning Commission is constantly consulted with respect to the location of churches, hospitals, institutions and new industries. All of these groups welcome an agency of the city government to whom they may go and ascertain not merely present but future plans with respect to main thoroughfares, transit lines, recreational facilities and zoning.

CONSTITUTION OF THE TOWN PLANNING COMMISSION.

Under the provisions of the Town Planning Act of 1925, a Commission consisting of nine members was appointed early in 1926, together with five ex-officio members. The appointed members serve without pay for terms of three years each, expiration of terms being such as to create overlapping of membership. The names of the present members of the Commission will be found on page 7.

The Vancouver Town Planning Commission is an advisory body to the City Council on matters pertaining to Town Planning as set forth in the Act. It has no other legal powers. In this connection, it has been observed that the most satisfactory functioning commissions are those whose duties are advisory rather than administrative, which commissions, by diligent, earnest and constant endeavour, have won the support of their public and upon which city councils are coming to rely for recommendations carefully arrived at on all matters pertaining to the plan.

IMMEDIATE PROGRAMME.

The preparation of the plan has been completed by the publication of this report as adopted by the Town Planning Commission. The plan should now be adopted at once by the Council, in accordance with the provisions of the Town Planning Act, but the Council cannot be expected to carry out the plan if the public are not sympathetic, and it has been and should continue to be the duty of the Commission to advise the public in general about town planning, and in particular about any specific project. Lectures, lantern slides, newspaper articles and similar means will be found valuable in keeping the public informed and interested. In other words, the Commission should furnish leadership creating public understanding of the many problems dealt with in the city plan. If there be no such agency performing this function, confusion and misunderstanding will result, and decisions of fundamental importance must forever rest upon the chance policies of opportunism and selfish political interest.

A PROGRAMME OF IMPROVEMENTS OR THE ORDER IN WHICH THE PLAN IS TO BE MADE EFFECTIVE.

Although much of the town plan can be effected without cost, many projects will involve the expenditure of public funds. In order that these projects may be undertaken in order of urgency, they have been compared in the light of their relative merits, and listed in a programme of improvements in the order recommended for their construction.

It might again be stressed that public money will be spent whether or not a plan has been prepared. But with a plan balance can be secured, offsetting a Council group interested say in only streets or water.

Most cities find a balanced budget an advantage when taking a comprehensive view of all public needs. Such a budget is only possible when a plan has been prepared and the order in which improvements are to be carried out has been determined.

It has been estimated that the year 1940 will find Greater Vancouver with a population of 500,000 and that in 1960 there is a possibility of 1,000,000 people living in Vancouver and vicinity. Such dates are, of course, approximate, but may be regarded as indicative of the time at which such population density will prevail. It will be convenient to consider these two general periods within which various parts of the town plan should be undertaken:

First period, 1928-1940, or until 500,000 population.

Second period, 1940-1960, or until 1,000,000 population.

In both periods there are phases of the plan or regulations provided under the plan that can be made effective without expense, but more particularly, of course, in the first period, which includes the initiating measures.

PROGRAMME FOR THE EXECUTION OF
THE VANCOUVER PLAN

FIRST PERIOD—1928-1940

(A). PROJECTS INVOLVING LITTLE OR NO EXPENDITURE OF
PUBLIC FUNDS

GENERAL

1. Adoption of official town plan, including major streets, transit, transportation, public recreation and civic art. (The zoning by-law was passed by Council December 17th, 1928).

MAJOR STREETS

1. Adoption of the major street plan.
2. Adoption of subdivision regulations with the Commission acting as, or in advisory capacity to, the approving officer.
3. Passing of a building line by-law.
4. Initiate replotting of north-east portion of Hastings Townsite.

TRANSIT

1. Adoption of transit plan following conferences with British Columbia Electric Railway.

IMMEDIATE PLAN

2. Re-routing Nos. 12, 4 and 2 routes according to plan.
Establish Broadway cross-town line.
Re-routing Nos. 5, 8 and 11a routes.
Establish wye on Fourth Avenue at Stephens Street, and others at suitable points.
Construction of clearance curves.

INTERMEDIATE PLAN

3. Extension of Broadway cross-town line. Construction Hastings-Hornby loop. Establish bus lines on (1) Knight Road; (2) Grandview Highway; (3) South Shore of English Bay; (4) From terminus of Broadway cross-town line to North Vancouver; (5) Forty-First Avenue to Broadway. Double tracking of existing single tracks. Total or partial elimination of Fairview Belt Line.

TRANSPORTATION

1. Adoption of transportation (harbour and railway) plan following conferences with Harbour Board and transportation companies.
2. Formation of a terminal switching organization and establishment of uniform switching changes for the Vancouver district.
3. Encourage the construction of a modern fish dock and plant and tug-boat wharfage on south shore of Burrard Inlet.

PUBLIC RECREATION

1. Adoption of the public recreation plan after conferences with the School Board and Parks Board.
2. Abandon the elementary and high school sites so recommended in the plan, having due regard to financial recoupment and property market conditions.

CIVIC ART

1. Adoption of civic art plan.
2. Passing of a by-law for a comprehensive street tree-planting and boulevard programme under supervision of the Parks Board, with provision for the assessing of the cost against the abutting property.
3. Passing of by-laws regulating overhead signs and for clearing annually a certain mileage of poles and wires from major streets and for the future erection of same in lanes or easements or underground.

1928-1940

(B). PROJECTS INVOLVING LARGER EXPENDITURE OF PUBLIC FUNDS

MAJOR STREETS

1. Provide for the Pacific-Cambie Distributor Street and construct portions at once.
2. Build Burrard Street Bridge and provide for the opening and widening of connecting thoroughfares via Cedar Street and Arbutus Street.
3. Widen Broadway from 66 to 100 feet between Cambie and Prince Edward Streets.
4. Eliminate offset in Hastings Street at Vernon Drive.
5. Acquire right-of-way for Kingsway Viaduct from Main Street to Beatty Street.
6. Acquire property for straightening of Kingsway, west of Fraser Avenue.
7. Acquire right-of-way for new diagonal street between Grandview Highway and Cassiar Street.
8. Acquire right-of-way for new connection between Eton Street and Edinburgh Street in north-east portion of Hastings Townsite.
9. Acquire right-of-way for new connection between Georgia and Charles Streets.
10. Acquire the property for all other new rights-of-way and connections at earliest possible moment.
11. Generally carry out street widening programme, primarily on streets required for extensions to transit system.

TRANSPORTATION

1. Provide for a grade separation at Hastings and Carrall Streets.
2. Construct a portion of the elevated waterfront roadway.
3. Adopt plan for False Creek and undertake initial construction.

PUBLIC RECREATION

1. Acquire the following new school sites:
(1) West End site; (2) Hastings Townsite site.

2. Acquire the property necessary for the extension of the following existing school grounds: (1) Strathcona School; (2) Hastings School; (3) Florence Nightingale School; (4) Lord Nelson School; (5) Lord Tennyson School; (6) General Gordon School; (7) Simon Fraser School; (8) Seymour School; (9) Laura Secord School; (10) Henry Hudson School; (11) Charles Dickens School; (12) Point Grey and South Vancouver Schools as recommended.

NOTE.—Arrangements should be made for the disposal at a suitable time of any undeveloped school sites which are not in accordance with the plan.

3. Acquire the property necessary for the extension of the following high school grounds and playfields: (1) Templeton Junior High School; (2) Clark Park; (3) John Oliver High School; (4) Lord Byng High School; (5) Kerrisdale Park; (6) Renfrew Grounds; (7) Cambie Street Grounds, if retained.

4. Acquire Kitsilano Reserve.

5. Acquire the following properties required for park extension:

CITY OF VANCOUVER—

- (1) Kitsilano Park to extend northward to include Canadian Pacific Railway land north-west of McNicoll Avenue and Maple Street
- (2) Civic centre site from Davie Street to False Creek between Bute and Burrard Streets; also privately-owned waterfront lots south of Beach Avenue between Stanley Park and Bute Street.
- (3) Robson Park to extend northward to Twelfth Avenue.
- (4) Clark Park to extend westward to Woodland Drive.
- (5) Clinton Park to extend southward to First Avenue.
- (6) Renfrew Park to extend northward to Grandview Highway.
- (7) The park site north-west of Kootenay and Graveley Streets to be extended to include the area bounded by Charles, Graveley, Cassiar and Kootenay Streets.

POINT GREY—

- (8) Locarno to extend southward to rear of lots facing south on First Avenue, and this area to extend westward to Sasamat Street.
- (9) Athletic Park (northwest of Oak Street and Marine Drive) to extend northward to Fifty-Ninth Avenue.
- (10) A new site bounded on the north and south by Forty-First and Forty-Third Avenues respectively and on the east and west by Balaclava and Blenheim Streets respectively; also a site south of the area bounded on the north by Forty-Third Avenue, on the south by the centre line of Forty-Fifth Avenue, on the east by Balaclava Street and on the west the rear of lots Nos. 1 to 10, block fronting on Blenheim Street.

- (11) The land now leased by the Canadian Pacific Railway to the Quilchena Golf Club.
- (12) A new site bounded on the north and south by Forty-Third and Forty-Seventh Avenues respectively when produced, on the east and west by the rear of average-depth lots fronting on Oak and Hudson Streets respectively.

SOUTH VANCOUVER—

- (13) Park site east of Main between Fifty-Third and Fifty-Fifth Avenues to extend eastward to Prince Edward Street.
- (14) A new site east of Argyle Street comprising District Lot 736 between Fifty-First and Fifty-Seventh Avenues.
- (15) A new site comprising Block 2, District Lot 336, west of Elliott Street, between Fifty-Third and Fifty-Sixth Avenues.
- (16) A new site bounded on the north and south by Asquith Avenue and Sixty-Sixth Avenue respectively; and on the east and west by Carlton and Vivian Streets respectively. (Exclude Sixty-Fourth Avenue between Carlton and Vivian Streets).

BURNABY—

- (17) A new site bounded by Kitchener Street and Sackville Street on the north and south respectively and by Gamma Avenue and Alpha Avenue on the east and west respectively.
 - (18) A new site bounded by Second Avenue on the north and Kensington Avenue on the east, and on the south-west by a line connecting Second Avenue and Lorne Avenue on the north-west with Kensington Avenue and Pandora Street on the south-east.
 - (19) A new site comprising Blocks 10, 11 and 12, District Lot 59, lying south of Broadway and Piper Avenue.
 - (20) A new site bounded by Spruce Street and Eglinton Street on the north and south respectively and by Percival Avenue and Mahon Avenue on the east and west respectively.
 - (21) A new site lying on the south-west shore of Burnaby Lake bounded on the north by Garden Street, on the west by Sperling Avenue and on the south by British Columbia Electric Railway's right-of-way and Deer Lake stream.
 - (22) A new site comprising Blocks 22 and 23, District Lot 82, bounded on the east by Nelson Avenue and on the south by Glen Street, also lots Nos. 31 to 40 inclusive, Blocks 14 and 15, District Lot 82, lying north of the above blocks.
 - (23) A new site bounded on the north and south by Milton Street and Stanley Street respectively, and on the east and west by Bradford Avenue and Roberts Avenue.
 - (24) A new site comprising Block 2, District Lot 171, bounded on the north and south by Twentieth Avenue and Seventeenth Avenue respectively and on the east and west by Twentieth Street and Mission Avenue respectively.
6. Acquire parkway rights-of-way.

CIVIC ART

1. Acquire Burrard Street civic centre site, and, if considered advisable, the abutting properties, and commence construction.

SECOND PERIOD—1940-1960

(A). PROJECTS INVOLVING LITTLE OR NO EXPENDITURE OF PUBLIC FUNDS

TRANSIT

1. Street railway extensions on Kingsway and Smithe Street.
2. Extension of Cambie Street line to B.C. Electric Railway (New Westminster-Marpole).
3. Extension of Granville Street line from Forty-First Avenue to Marpole.
4. Extension of Fraser Avenue line south to B.C. Electric Railway (New Westminster-Marpole).
5. Extension of Victoria Drive line south to B.C. Electric Railway (New Westminster-Marpole).
6. Construction of street railway tracks on Knight Road south to B.C. Electric Railway (New Westminster-Marpole).
7. Construction of Wales-Central Park line (from Kingsway via Thirty-Fourth Avenue).
8. Institution of additional bus lines and facilities as recommended in the transit plan.

TRANSPORTATION

1. Encourage further shipyard and drydock construction.

1940-1960

(B.) PROJECTS INVOLVING LARGER EXPENDITURE OF PUBLIC FUNDS

MAJOR STREETS

1. Build Kingsway Viaduct.
2. Further street widening and extension.

TRANSPORTATION

1. Finish construction of the elevated roadway.
2. Completion of the False Creek development scheme.

PUBLIC RECREATION

1. Development of parks and driveways in accordance with the plan.

CIVIC ART

1. Complete construction of Burrard Street civic centre.



Photograph by Leonard Frank

Vancouver's Sentinels.

*The Lions and Capilano River, one of the Sources of the
City's Water Supply.*

APPENDICES

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APPENDIX I.
LEGISLATION RELATING TO SUBDIVISIONS

LAND REGISTRY ACT: See Part VI., Sections 71 to 119.
In particular:

SECTION 86.

REQUIREMENTS AS TO SUBDIVISION PLANS.

All subdivision plans shall comply with the following requirements, in addition to all other requirements contained in this part:

- (a) Necessary and reasonable access to all new parcels and through the land subdivided to lands lying beyond or around shall to the extent of the owner's control be provided by a sufficient public highway, and all existing highways provided for in subdivision plans of adjoining lands or otherwise legally established shall be continued without unnecessary jogs;
- (b) Where the land subdivided borders on the shore of any navigable water, access shall be given by sufficient public highways to such navigable water at distances not greater than ten chains between centre lines, or, in district municipalities or unorganized territory where the parcels into which the land is subdivided exceed one acre, at distances not greater than twenty chains between centre lines;
- (c) Suitable lanes shall be provided in continuation of existing lanes and in every case where lanes are considered necessary by the approving officer.

SECTION 88.

REQUIREMENTS AS TO APPROVAL OF SUBDIVISION PLAN.

No subdivision plan shall be received on deposit in any Land Registry Office unless it has first been approved by the approving officer or is ordered to be deposited by an Order-in-Council as provided in this Part.

SECTION 89.

Where a subdivision plan deals with lands in a municipality, it shall be tendered to the clerk of the municipality, and where it deals with lands in unorganized territory, to the Public Works Engineer or District Engineer of the Department of Public Works, for examination and approval, and shall be accompanied by an examination fee of two dollars and a certificate that all taxes which have been assessed on the lands subdivided have been paid.

SECTION 90.

REQUIREMENTS WHERE PLAN TENDERED LATER THAN THREE MONTHS AFTER SURVEY.

Where a subdivision plan is tendered for examination and approval after the expiration of three months from the date of the completion of the survey, the approving officer may require that the surveyor inspect the survey and satisfy himself that all posts and monuments are in place and that the survey has not been affected by any intervening survey or railway or right-of-way location, and certify the same on the plan by the word "Inspected," with the date and his signature. The surveyor may so inspect and certify before the plan is tendered for approval.

SECTION 91.

TIME-LIMIT FOR APPROVAL.

(1) Every subdivision plan shall be approved by or rejected by the approving officer within thirty days from the date it is tendered for examination and approval, or from the furnishing of any profile or sketch when demanded under section 92.

APPROVING OFFICER.

- (2) The approving officer shall be, in the case of:
 - (a) A municipality, the Municipal Engineer if there is one, or else an officer duly authorized by the Council of the municipality;
 - (b) Unorganized territory, the Public Works Engineer or Assistant Public Works Engineer.

SECTION 92.

REQUIREMENTS OF APPROVING OFFICER.

The person tendering a subdivision plan for examination and approval shall also comply with the following requirements, if the approving officer so demands:

- (a) Furnish profiles of every new highway shown on the plan and such topographical details as may indicate the engineering problems to be dealt with in opening up the highways shown upon the plan;
- (b) Furnish a sketch showing that the parcels into which the land is subdivided by the plan can conveniently be further subdivided into further smaller parcels, but this shall only be demanded if in the opinion of the approving officer the situation of the land is such that there is reason to anticipate its re-subdivision.

SECTION 93.

EXTRA-MUNICIPAL LANDS.

In case the lands subdivided are without a municipality, the approving officer may, at the cost of the owner of the lands, personally examine or have an examination and report made on the subdivision, and may refuse to approve the plan if he considers the deposit of the plan against the public interest, or if the plan does not comply in all respects with the provisions of this Act and with all regulations of the Lieutenant-Governor in Council in regard to subdivision plans or highways.

SECTION 94.

LANDS WITHIN MUNICIPALITY.

Where the lands subdivided are within a municipality, the approving officer may refuse to approve the plan where it does not conform to the by-laws of the municipality regulating the size of lots or parcels for building or other purposes.

SECTION 95.

BASIS OF CONSIDERATION OF HIGHWAY ALLOWANCES.

In considering the sufficiency of the highway allowances shown upon the plan, the approving officer shall take into consideration whether the land subdivided is:

- (a) Business property within cities or towns;
- (b) Residential property within cities or towns or the suburbs thereof; or
- (c) Country lands;

and he shall also consider the configuration of the land, the relation of the highway allowances to any existing main highway or approach, whether by land or water, and any local circumstances, and on the question of width, whether the respective highways shown are likely to be required or used as main roads or as secondary roads, or merely as roads of access to a few parcels, or as lanes.

SECTION 97.

APPEAL TO LIEUTENANT-GOVERNOR IN COUNCIL.

If the plan has been rejected by the approving officer or has not been approved by him within the time limited by section 91, or if the Lieutenant-Governor in Council has instructed the Registrar not to receive the plan on deposit, the person who tendered the plan for approval or deposit may appeal to the Lieutenant-Governor in Council, of which appeal written notice shall be given to the approving officer. The Lieutenant-Governor in Council may act upon the facts as presented or may receive evidence by statutory declaration or by oral testimony, and may appoint an independent person to examine and report, at the cost of the owner of the lands, on the proposed subdivision and plan, and may dismiss the appeal, or if it is considered that the subdivision and plan are in accordance with law, and that the deposit of the plan is not against the public interest, may order the plan to be deposited. A certified copy of the Order-in-Council ordering the deposit shall be transmitted to the Registrar.

VANCOUVER INCORPORATION ACT, 1921.

SECTION 163.

The Council may from time to time make, alter and repeal by-laws for the following purposes:

WIDTH OF NEW STREETS.

(66) For regulating the width of new streets and roads, and for prohibiting the laying out or construction of streets and lanes, except in conformity with existing streets, roads or lanes, and unless the consent of the Council has first been obtained.

SURVEY OF LOTS AND BLOCKS.

(212) For regulating and compelling the owners of undivided lands to survey their property in the city with the object of accurately locating the streets and lanes of the said city and in default of the owners surveying the said property in accordance with the provisions of the by-law to enforce the survey thereof and to provide for the city surveying the said property and locating the said streets and charging the owners of the land so surveyed with the cost and expense thereof; and for enforcing the recovery thereof from the owner or owners by action in any court of competent jurisdiction, and making the same a charge on the said lands; and with power to sell the said lands for the recovery of the expense and cost of such surveys, in the same manner and under the same regulations as in the case of overdue taxes.

SUBDIVISION OF CITY LOTS.

(213) For regulating or controlling the subdivision of city lots and blocks and for prohibiting the subdivision thereof in contravention of the by-law.

MUNICIPAL ACT.

SECTION 54.

SUBJECTS RESPECTING WHICH COUNCIL MAY MAKE BY-LAWS.

In every municipality the Council may from time to time make, alter and repeal by-laws not inconsistent with any law in force in the province for any of the following purposes, that is to say:

PLAN OF STREETS.

(213) For regulating the plans, level, width, surface, inclination, and the material of the pavement, roadway and sidewalk of streets, roads, and other public thoroughfares.

GRADES.

(214) For establishing a general grade for the streets and roads in the municipality

SECTION 55.

SUBDIVISION ROADS TO BE ROUGH-GRADED IF REQUIRED.

The Council of every district municipality may by by-law provide that before any plan of subdivision of land is approved the owner of said subdivision shall rough-grade the roads shown on the plan of subdivision of said lands.

APPENDIX II.

RULES TO BE ADOPTED REGULATING THE SUBDIVISION OF LAND

NOTE. These rules are suggestive only. The Town Planning Commissions in British Columbia do not possess authority to require approval, nor does any city itself possess such authority outside of its own boundaries. It is recommended that legislation be sought empowering Town Planning Commissions to regulate subdivisions within three miles of their boundaries, as is the general practice in numerous cities on this continent.

1. PRIMARY PLAN.

Any person desiring to subdivide land or to dedicate any streets, lanes or other lands to the public, shall submit to the Town Planning Commission a preliminary plan, which shall be in duplicate, on a scale of not more than one hundred feet to one inch and shall show:

- (a) The official designation of the property.
- (b) The proposed location and dimensions of all streets, lanes and parcels, and similar information regarding property immediately adjacent.
- (c) The consent of the owner of the land to the proposed subdivision.
- (d) If requested by the Commission, all topographical features including contours of intervals of three or more feet and profiles of all new highways.
- (e) Such information as will show that in case of further subdivision the requirements of the town plan can be complied with.
- (f) Any private restrictions which the owner wishes to place on the property should be indicated.

NOTE.—The purpose of requiring submission of a preliminary plan is to give the subdivider of land an opportunity to secure the judgment of the Commission regarding his scheme of streets and lots before he has carried the matter too far. The observance of this requirement may mean a considerable saving to the promoter.

Two copies are required, so that one may be corrected or altered by the Planning Commission and returned to the subdivider, and the other retained in the files of the Commission.

These preliminary plans should not be unchangeable. They should be rough sketches, giving all the information which will be required for a proper estimate of the merits of the subdivision. The necessary data is specifically requested under (a), (b), (c), (d), (e) and (f), above. If the subdivider has followed the general rules of the Commission with respect to lot sizes, street widths, lanes and the like, and has observed the requirements of the major street plan as it affects his property, his preliminary plan in all likelihood will be approved by the Commission and he will be able then to go ahead with his final plans. If the final plan is merely a refinement of the preliminary and does not differ from it in essentials, its acceptance will be a matter of course.

2. FINAL PLAN.

The final plan and two copies thereof shall be submitted to the Town Planning Commission.

NOTE. After a subdivision in preliminary form has been checked over and approved by the Town Planning Commission, the owner may have his survey made and final plan prepared. When this is finished it must be brought to the Commission, together with two copies for the Commission's files. The final approval of the Commission must be placed upon the plan before it can be registered.

The final plan will show:

- (a) The plan shall bear a title showing the official designation of the district lot, section, or parcel, the whole or a portion of which is thereby subdivided and the number of the last registered plan thereof (if any).
- (b) The land intended to be dealt with by the plan shall be shown thereon surrounded by a line in red ink, and where

the whole district lot, section or parcel is subdivided the plan shall show the boundaries thereof and where only a portion of the district lot, section or parcel is dealt with the plan shall show the boundaries of such portion and a sufficient number of angular and linear measurements to indicate its inclusion within the boundaries of the district lot, section or parcel and its connection with one or more of said boundaries as may be necessary to determine its location, and also by similar measurements show its connection with any other parcel forming a portion of the same district lot, section or parcel as may be necessary in order to determine the relative location of the several parcels and of the highways serving the same. Every plan shall indicate the district lots, sections or parcels adjacent to the lands dealt with.

- (c) Where the plan is of a re-subdivision of a parcel shown on a previously registered plan or of a parcel described on the register by metes and bounds as a portion of a larger parcel, there shall be shown in a distinct manner on the plan the numbers or distinguishing letter (if any) of the parcel subdivided and the boundary lines of that parcel.
- (d) There shall be marked on the plan the dimensions and course of the boundaries of each parcel into which the land is divided, or a sufficient number of angular and linear measurements and bearings shall be shown from which such dimensions can be deduced. In the case of curved lines, the plan shall indicate the radius, point of curvature and point of tangency.
- (e) All bearings shall be referred to the astronomical meridian, and the point of observation for such meridian shall be indicated on the plan. When an observation cannot be conveniently obtained, information as to the derivation of the meridian used shall be given on the plan.
- (f) Each angle of each parcel shall be defined on the ground by the surveyor by a post or monument of a durable character, and the manner in which each angle is defined on the ground and the exact position of all posts and monuments as placed on the ground shall be shown on the plan, and if any offset is made it shall be shown on the plan.
- (g) Each parcel into which the land is divided shall be marked with a distinct number or letter on the plan, and shall continue an existing series or commence with "1" or "A" and shall number consecutively; in no case shall the parcel be designated as sections or ranges.
- (h) Every highway, park, square or reserve appropriated or set apart for public use shall be shown as such and distinctly delineated on the plan and the measurements thereof shall be marked on the plan.
- (i) Upon the request of the owner before the subdivision survey is made, the Surveyor-General may, subject to such conditions as he may think proper to impose, allow a subdivision to be made and evidenced in the following manner: Instead of requiring a post or monument at each angle of each parcel, there shall be erected at proper intervals monuments of a specified permanent character. These monuments, with the information on the plan showing their location, shall be evidence of the block outlines of the survey and the registered plan of the subdivision shall be the evidence of the manner in which each block of land is subdivided.
- (j) Each plan shall be prepared in duplicate on tracing linen and shall not exceed thirty inches in width, and, together with all certificates, approvals and other matters written thereon, shall be in black India ink, and where the use of any other colour is necessary that colour shall be of a permanent nature.

- (k) Each plan shall be accompanied by at least one blueprint on good blueprint cloth.
- l) The scale of every plan shall be governed by the following provisions and shall be marked on the plan:
 1. If no parcel shown thereon is less than one acre, the scale shall be in chains and links unless the land subdivided thereby is shown upon a registered plan scaled in feet.
 2. If any parcel shown thereon is less than one acre, the plan shall be on a scale not smaller than 100 feet to one inch.
 3. If any parcel shown thereon is less than five acres, but no parcel is less than one acre, the plan shall be on a scale not smaller than three chains or two hundred feet to one inch.
 4. If any parcel shown thereon is less than twenty acres, but no parcel is less than five acres, the plan shall be on a scale not smaller than six chains to one inch.
 5. If no parcel shown thereon is less than twenty acres the plan shall be on a scale not smaller than ten chains to one inch.
 6. A plan shall be deemed to comply with the foregoing provisions as to scale, although a parcel or parcels shown thereon are smaller than justified by the scale used if there is on the plan a detailed drawing of such parcel or parcels.
- (m) The Registrar shall, at his discretion, be at liberty to receive for deposit any plan prepared on a smaller scale than that above mentioned.
- (n) No part of any plan or of any certificate, approval or other matter required to be written thereon, shall be stamped, printed, typewritten, stencilled, lithographed or engraved.
- (o) All abbreviations or symbols used and all necessary particulars not otherwise expressed shall be explained by a legend on the face of the plan.
- (p) The correctness of the survey and plan shall be verified by the surveyor on oath in Form L in the First Schedule, 1921, c. 26, s. 80.

RELATION TO ADJOINING STREET SYSTEM.

The arrangement of streets in new subdivisions shall make provision for the continuation of the principal existing streets in adjoining additions (or their proper projection where adjoining property is not subdivided) in so far as they may be necessary for public requirements. In general, such streets shall be of a width at least as great as the existing streets. The street and lane arrangement must also be such as to cause no hardship to owners of adjoining property when they subdivide their own land and seek to provide for convenient access to it.

STREET AND ALLEY WIDTHS.

- (a) The widths for major streets shall conform to the widths designated on the major street plan.
- (b) The minimum width for minor streets shall be fifty (50) feet, except that in cases where the topography or special conditions make a street of less width more suitable the city Planning Commission may waive the above requirements.

NOTE.—The most satisfactory width for minor streets is 60 feet. When the requirements of the major street plan seem to absorb an unreasonable amount of an owner's land in the view of the Town Planning Commission, they may advise the planning of 50 foot streets as a compensation. The Commission likewise should reserve the right to permit streets less than 50 feet wide on hillsides, along streams or bordering parkways, where the requirements of traffic are not likely to make wide streets necessary. In general, however, it should be the aim of the Commission to establish a 60-foot standard for residence streets

- (c) The minimum width of a lane in a residential block shall be sixteen (16) feet. A five foot cut off shall be made at

all acute and right angle lane intersections. Lanes in rear of business lots shall be at least 20 feet wide.

- (d) Where lanes are not provided, easements of not less than four feet in width shall be provided on each side of all rear lot lines and side lines where necessary for poles, wires, conduits, storm and sanitary sewers, gas, water and heat mains. Easements of greater width may be required along lines or across lots where necessary for the extension of main sewers and similar utilities.

NOTE.—Modern subdivision practice requires the placing of all poles and wires along rear lot lines instead of in the street. It is often more economical to place sewers, especially trunk sewers, along these lines. For such purposes easements must be indicated upon subdivision plans. The easement widths required above are generally accepted as standard.

BLOCKS.

- (a) No blocks shall be longer than one thousand feet between street lines. Blocks over 750 feet in length shall have a cross walk near the centre of the block. The right-of-way for such walks shall be not less than ten (10) feet.

NOTE.—In the days of the horse-drawn vehicles it was customary to make blocks rather short. The automobile has made longer blocks unobjectionable and generally safer. Wider streets, however, are necessary, so there may be a sort of compensation in each subdivision. The minor streets can be made narrow in order that the major thoroughfares may be wide, and the number of cross streets through a given area may be reduced and the space thus gained also added to the width of the principal arteries. To overcome the disadvantage of long blocks to pedestrians, cross walks are needed.

- (b) In new subdivisions at a distance from property already subdivided, block widths shall be established, except for special reasons, at from two hundred and forty (240) to three hundred (300) feet.

NOTE.—When land is being subdivided at a considerable distance from other subdivisions, there is often a temptation to make lots extra deep and of unusually generous width. The plan of streets adopted under such circumstances will, in all probability, not be of the sort that subdividers of adjacent land can follow. The rules require that the street system of a new subdivision conform to those existing in adjacent subdivisions.

Under certain circumstances this might be a hardship. If a man subdividing a piece of property two miles beyond the city limits lays out lots 175 feet deep, his streets become 350 feet apart. It may be a number of years before any others plat near him, but when they eventually do so, they may reasonably object to conforming to the street system already established. If all blocks are made between 200 and 300 feet wide, regardless of where they are subdivided, it will not be difficult to require conformity.

- (c) Where it is desired to subdivide a parcel of land which, because of size or location, does not permit an allotment directly related to a normal street arrangement, there may be established a "place." Such a place may be in the form of a court, a non-connecting street or other arrangement, provided, however, that proper access shall be given to all of the lots from a dedicated place (street or court) and the minimum size of each allotment of this sort shall be permanently established so as to assure a building arrangement commensurate with the foregoing requirements for normal additions.

NOTE.—This provision makes it possible for an owner of an odd-shaped parcel surrounded on all sides by built-up property to lay out a self contained "court" or "place." The rule is amplified so as to make it impossible, after such a court or place is laid out and all other regulations complied with, for someone else to enter and further subdivide the lots or change the scheme so as to do harm to the community. These courts or places, especially where dead end streets are involved, are to be avoided if possible. In all cases provision should be made for the free movement of vehicles to pass, even if two are standing abreast at the curb, and there should be a turn-around at the end of a diameter sufficient to permit the complete turning of large vehicles.

LOTS.

(a) In all rectangular lots, and so far as possible all other lots, the side lines shall be at right angles to the street on which the lot faces. Lots with double frontage shall be avoided, except under special conditions.

NOTE.—*This is a requirement which should be especially emphasized. When lot lines are not at right angles to the street, there is confusion in the mind of the builder who wishes to use the lot. If he places his building parallel to the street, it stands askew across his lot, cutting down his space for a drive and making hedges and walks run at peculiar angles to the street. If he places his house square upon the lot, with its sides parallel to the side lines of the lot, his neighbour may do differently. If his neighbour follows his example the houses stand in saw-tooth fashion along the street, the rear of each one exposed to the front of the next one to it. All this annoyance can be avoided if land subdividers will but give reasonable consideration to the interests of those who will make use of the property they expect to sell.*

Through lots or lots with double frontage are ordinarily objectionable, but are advised for special conditions, such as steep hillsides.

(b) The minimum dimensions for lots shall be forty (40) feet for width and one hundred and twenty (120) feet for depth, and in no case shall a rectangular or irregular shaped lot contain less than forty-eight hundred (4800) square feet.

NOTE.—*It is not desirable to establish a standard size for all lots. The requirements of lot purchasers differ, the precedent already established in a certain district is hard to break, the effect of topography upon subdivision cannot always be foreseen.*

The Commission should direct attention to the importance of proper lot planning and enforce requirements which seem to be necessary to protect the public interest. The custom of laying out 25-foot lots is productive of building conditions which are not a credit to the city. The Town Planning Commission should support a 50-foot standard for the average lot, but has written into its rules a forty-foot minimum to cover instances where a 50-foot requirement would be a hardship upon the subdivider.

The tendency to lay out extremely deep lots should also be corrected. In the day of the horse and carriage, when stables were common, a deep lot was required in order to keep these nuisances as far from the dwellings as possible. In the present age, however, an excessively deep lot is not particularly advantageous. This is especially true in districts where alleys have been left out. A lot 120 feet deep is adequate for all ordinary residential requirements, yet not so deep as to invite rear dwellings.

An over-intensive use of land generally brings about conditions that are detrimental, and the protection of the city from such conditions is a purpose of these rules. The Zoning By-law provides in the case of new lots, for an area at least 4800 square feet for each single family dwelling, provided only that such site area may be reduced to 3600 square feet in certain cases in conformity with subdivision of the surrounding property.

(c) Corner lots shall have extra width, sufficient to permit the maintenance of building lines on both front and side. In normal cases the width required will be not less than the amount of the establishing building line on the side street plus the irreducible buildable width and such side yard requirements as may be provided for by a zoning by-law.

(d) Lots on major street intersections and all other points likely to be dangerous shall have the corner cut off to an amount at least equal to what would be cut off by a curve having a radius of fifteen (15) feet.

NOTE.—*The reason for this provision is obvious. There is no more urgent need today than the adoption of roadway and street*

planning practice to the requirements of modern traffic. Sharp projecting curb corners at thoroughfare crossings are decidedly dangerous to pedestrian and driver alike, due to the sweeping turn that quickly takes an automobile to the wrong side of the intersecting street. A round of the corner of each lot at a street intersection will not lessen the value of the lots, but will make the roadway much safer.

(e) In the case of a proposed redivision of lots involving a change in frontage from existing front street or streets to a flankage street, the procedure as outlined in these rules for new subdivisions is to be followed and considerations given to:

1. The location of existing utilities to supply such redivided lots.
2. The effect on the neighbourhood and whether or not the redivision is to be to the public advantage.
3. That no redivision should be permitted which, in a district zoned for business of but one original lot depth and adjoining a residential district, would result in lots fronting on other than the street intended to be devoted to such business uses.

NOTE.—*It is advisable to avoid flankage lots in a business district, and in the zoning of any area this point might be kept in mind and might in itself be a reason for a redivision of lots.*

PARKS, SCHOOL SITES, ETC.

In subdividing property, due consideration shall be given to the dedication of suitable sites for schools, parks and playgrounds, so as to conform as nearly as possible to the recommendations for the Plan of Greater Vancouver. Such provision should be indicated on the preliminary plan in order that it may be determined when and in what manner such areas will be dedicated to the city.

NOTE.—*The opportunities for co-operation of the sort implied in the rule above have scarcely yet been touched. Any subdivision of reasonable size is almost certain to have a church or a school in it at some time. A neighbourhood park of at least twenty acres should be made available for development in each square mile of residential property. These incidental features of every residence district should be planned at the time the land is platted. A distribution of a portion of the selling value of these areas among the remaining lots will generally make it possible for the promoter of the subdivision to offer such areas at prices that will permit immediate acceptance. Small areas for parks, if of usable size, may, with profit to the subdivider, be dedicated free to the city, under agreement by the latter, to improve the park when the resident population warrants the expense. The advantages of the park may be capitalized in the sale of lots and generally enough additional realized to more than pay the original cost of the land given to the city.*

STREET NAMES.

Streets that are obviously in alignment with others already existing and named, shall bear the names of the existing streets.

CHANGE TO MORE RESTRICTED USE DISTRICT.

Wherever property is subdivided with the intention that it shall have a use more restricted than that designated on the District (Zoning) Map, such intention shall be declared to the Commission at the time the preliminary plan is presented.

Such declaration shall also constitute a petition to the city to change the use designated for such property on the District Zoning Map.

NOTE.—*It is practically impossible in zoning undeveloped areas to determine precisely the uses of property which will be most suitable to the district. The subdivider of the plan must be allowed some latitude. The purpose of the rule above is to permit him to request a change in the zoning regulations if he thinks a more restricted classification of this property desirable.*

APPENDIX III.
CITY OF VANCOUVER ZONING BY-LAW
BEING BY-LAW 1951

A by-law to regulate and restrict the location and use of buildings and the use of land within the City of Vancouver; to limit the height and bulk of buildings; to prescribe the size of yards and other open spaces and the maximum density of population and, for these purposes, to divide the city into districts.

The Mayor and Council of the City of Vancouver, in open meeting assembled, hereby enact as follows:

TITLE.

1. This by-law may be cited as the "Zoning By-law."
2. The provisions of this by-law shall apply to the area situate within the present limits of the city.

DEFINITIONS.

3. In this by-law, unless the context otherwise requires, the following words, terms and expressions shall have the respective meanings hereinafter assigned to them, that is to say:
 - (1) "Accessory building" shall mean a building subordinated to the main building, the use of which is incidental to that of the main building, or a building the use of which is incidental and subordinate to the use of the land;
 - (2) "Apartment house" shall mean any building, or portion thereof, which is designed, built, rented, leased, let or hired out to be occupied, or which is occupied, as the home or residence of three or more families living independently of each other and doing their own cooking in the said building and shall include flats and apartments;
 - (3) "Basement" shall mean a storey the floor of which is more than one foot, but less than five feet, below the average level of the adjoining ground. A basement shall not be counted as a storey in calculating the height of any building unless it is designed or used for purposes permitted in a business district or as living quarters for someone other than a janitor;
 - (4) "Cellar" shall mean a storey the floor of which is more than five feet below the average level of the adjoining ground. A cellar shall not be counted as a storey for the purpose of height measurement;
 - (5) "Board of Appeal" shall mean the Board of Appeal constituted pursuant to section 16 of the "Town Planning Act";
 - (6) "Boarding-house" shall mean a building other than a hotel containing not more than fifteen sleeping rooms, where lodging and meals for five or more persons are provided for compensation pursuant to previous arrangements or agreement;
 - (7) "Lodging-house" shall mean a building other than a hotel containing not more than fifteen sleeping rooms, where lodging for five or more persons is provided for compensation;
 - (8) "Hotel" shall mean a building occupied as the more or less temporary abiding place of individuals who are lodged with or without means and in which there are more than fifteen sleeping rooms usually occupied singly and with no provision for cooking in any individual room or apartment;
 - (9) "Business districts" shall mean and include the General Business District and all commercial, light, industrial and heavy industrial districts as herein defined;
 - (10) "Curb level" shall mean the level of the established curb in front of the building measured at the centre of such front. Where no curb has been established, the City Engineer shall establish such curb level or its equivalent for the purpose of this by-law;
 - (11) "Dwelling":
 - (a) "One-family dwelling" shall mean a separate building designed for or occupied exclusively as a dwelling for one family or housekeeping unit;
 - (b) "Two-family dwelling" shall mean a building designed for use exclusively as a dwelling for two families or housekeeping units;
 - (c) "Multiple dwelling" shall mean a building or portion thereof, designed for use as a dwelling for more than two families or housekeeping units; or designed to afford board or lodging, or both, to guests for remuneration, including an apartment, boarding, or lodging-house;
 - (12) "Garage" shall mean a building or land used for housing or care of self-propelled vehicles;
 - (13) "Public garage" shall mean a garage where self-propelled vehicles are equipped for operation, repaired, kept for hire, or dismantled;
 - (14) "Private garage" shall mean a garage with capacity for housing not more than two self-propelled vehicles, and in which no space is rented for trucks; provided, however, that a private garage may exceed a two-vehicle capacity if the area of the site contains not less than twenty-five hundred square feet for each vehicle;
 - (15) "Storage garage" shall mean a garage, except a private or public garage as herein defined, used exclusively for the storage of self-propelled vehicles, and where no repair facilities are maintained;
 - (16) "Group houses" shall mean a group of detached or attached dwellings not more than two rooms in depth, facing upon a place as herein defined;
 - (17) "Row houses, or terraces," shall mean attached dwellings not more than two rooms in depth;
 - (18) "Height of buildings" shall mean the vertical distance from the curb level to the highest point of the roof surface if a flat roof; the deck line of a mansard roof; and to the mean height level between the eaves and ridge of a gable, hip, or gambrel roof. When a building is situated on ground above the curb level, such height shall be measured from the average elevation of the finished grade of the site along the front of the building. On through sites, one hundred and thirty-two feet or less in depth, the height of a building may be measured from the curb level on either street. On through sites more than one hundred and thirty-two feet in depth, the height regulations and basis of height measurements for the street permitting of the greater height shall apply for a depth of not more than one hundred and thirty-two feet from that street;
 - (19) "Lane" shall mean a public way which affords only a secondary means of access to a site at the side or rear;
 - (20) "Non-conforming use" shall mean a use of a building or land that does not conform with the regulations of the district in which it is situated as prescribed by this by-law;
 - (21) "Person" shall, when necessary, mean and include natural persons of either sex, associations, corporations, bodies politic, co-partnerships, whether acting by themselves or by a servant, agent or employee, and the heirs, executors, administrators, successors and assigns, or other legal representative of such person to whom the context can apply according to law. The singular shall, when necessary, be held to mean and include the plural; the masculine the feminine, and the converse thereof;
 - (22) "Place" shall mean an open, unoccupied space common to two or more sites permanently reserved as the principal means of access to such sites, and not being a street;

- (23) Stable:
- (a) "Private stable" shall mean a stable with capacity for not more than two horses, two cows, or two goats; but in any case for not more than one animal for each one thousand square feet of area of the site;
- (b) "Public stable" shall mean a stable other than a private stable;
- (24) "Service or gas station" shall mean a building or land used for serving self-propelled vehicles with gasoline, oil, tires or other supplies;
- (25) "Site" shall mean an area of land having its principal frontage upon a public street or place as herein defined, occupied, or to be occupied, by one building and its accessory buildings and including such open spaces as are required under this by-law;
- (26) "Corner site" shall mean a site having a width not greater than sixty-six feet, situated at the intersection or junction of two or more streets, or of a street and a lane not less than twenty feet in width;
- (27) "Through site" shall mean a site having a frontage on two parallel, or approximately parallel, streets;
- (28) "Site lines" shall mean the lines bounding a site;
- (29) "Storey" shall mean that portion of a building included between the surface of any floor and the surface of the floor next above it, or if there be no floor above it, then the space between such floor and the ceiling next above it;
- (30) "Half storey" shall mean a storey under a gable, hip, or gambrel roof, the wall places of which, on at least two opposite exterior walls, are not more than two feet above the floor of such storey;
- (31) "Yard" shall mean a part of the site which is unoccupied and unobstructed by buildings from the ground upward, excepting thereout and therefrom the following:
- (a) The ordinary projection of sills, belt courses, cornices and eaves; provided, however, that none of those shall project into a minimum side yard more than twenty-four inches;
- (b) Fire-escapes;
- (c) The ordinary projections of chimneys in side and rear yards only; provided, however, that no chimney shall project into a minimum side yard more than twenty-one inches;
- (d) Accessory buildings not exceeding twelve feet nor one storey in height, occupying not more than thirty per centum of the area of a rear yard;
- (32) "Front yard" shall mean a yard extending across the full width of the site from the front line of the site to the front wall of the building, or any projecting portion of the building, excepting thereout and therefrom steps, sills, belt courses, cornices, eaves and fire-escapes;
- (33) "Rear yard" shall mean a yard extending across the full width of the site from the rear wall of the building to the rear line of the site; provided, however, that in computing the required depth of a rear yard which is bounded at the rear by a lane, one-half of the width of the lane may be assumed to be a part of the yard;
- (34) "Side yard" shall mean a yard extending from the front wall of the building to the rear wall of the building between the side line of the site and the side wall of the building.

DISTRICTS.

4. For the purpose of this by-law, the territorial area of the City of Vancouver is hereby classified or divided into districts, and such districts are hereby designated and described by the following classifications, that is to say:

- (a) One-family Dwelling District;
- (b) Two-family Dwelling District;
- (c) Three-storey Multiple Dwelling District;

- (d) Six-storey Multiple Dwelling District;
- (e) Local Commercial District;
- (f) Three-storey Commercial District;
- (g) Six-storey Commercial District;
- (h) Six-storey Light Industrial District;
- (i) General Business District;
- (j) Heavy Industrial District;

MAP OR PLAN; SCHEDULE "A".

5. The boundaries of such districts referred to in the next preceding section of this by-law, together with explanatory legend, notations and references in respect thereof, are designated, described, delimited and specified in particularity as shown upon the map or plan annexed hereto, and which said map or plan is hereby made and declared to be an integral part of this by-law, such map or plan being designated as "zoning map," and is marked as schedule "A" to this by-law; and said districts so described, designated, delimited and specified, as shown upon such zoning map, are hereby declared to be the exact districts referred to in the various provisions of this by-law applicable thereto; and the various boundaries of such respective districts, as shown upon such zoning map or plan so disclosed and designated thereon, respectively, are the respective districts corresponding to the respective references to said respective districts referred to and set forth in the provisions of this by-law and the said map or plan and the provisions of this by-law shall be interpreted accordingly.

DESCRIPTION OF DISTRICTS.

6. The said districts referred to in the next two preceding sections of this by-law, and as designated, described, delimited, and shown on the said map or plan marked as schedule "A" hereto are hereinafter designated, delimited and described in particularity as follows, that is to say:

LEGAL DESCRIPTION OF EACH DISTRICT GIVEN IN DETAIL.

All blocks, lots or other parcels mentioned herein being taken to also mean and include any and all differently designated parcels into which the said blocks, lots or parcels have heretofore been or may hereafter be subdivided.

GENERAL RULES.

7. (1) No person shall erect, construct, locate, alter, reconstruct or maintain any building, or locate or carry on any industry, business, trade, or calling, or use any land or building within any district (save as is hereinafter stated to be permitted within such district) without complying with the provisions of this by-law applicable thereto.

(2) (a) No site area shall be so reduced or diminished that the yards or other open spaces shall be smaller than prescribed by this by-law, nor shall the density of population be increased in any manner except in conformity with the site area regulations established by this by-law.

(b) Every building hereinafter erected shall be located on a site as herein defined; and in no case shall there be more than one building on one site except as otherwise provided in this by-law.

(3) Where land is used for the erection or placing of a fence over six feet in height, or of any other structure not being a building, the structure shall comply with the height, yard, and building line requirements hereinafter provided, the same as if such structure were a building.

(A) ONE-FAMILY DWELLING DISTRICT.

8. (1) The provisions of this section and sub-sections hereof shall apply to buildings and uses of buildings and land situate within One-family Dwelling Districts as defined, designated, delimited and described in this by-law and as shown on the map or plan annexed hereto and marked as schedule "A" hereto.

(2) It shall be unlawful for any person hereafter to erect, construct, alter or reconstruct, or cause to be erected, constructed, altered, or reconstructed, any building, or to occupy or use any

building, premises or land, within the boundaries of any district referred to, defined, designated or described in this by-law as a One-family Dwelling District, save and except for any of the following uses, namely:

- (a) One-family dwellings;
- (b) Churches;
- (c) Public schools;
- (d) Public museums, libraries, golf courses, parks and playgrounds;
- (e) Farming and truck gardening;
- (f) Nurseries and greenhouses, only for the propagating and cultivating of plants;
- (g) Accessory buildings, accessory to any of the aforesaid uses, provided that:

(aa) A private garage not constructed as a part of the main building shall be situated not less than sixty feet from the street in front nor less than five feet from any other street;

(bb) A private stable or other building used to shelter domestic animals or birds, when permitted under the provisions of section 18 (1) of this by-law, shall be located not less than sixty feet from the street in front nor less than twenty feet from any other street, nor less than thirty feet from any dwelling;

- (h) Uses customarily incident to any of the above uses, including home occupations, offices of professional persons when situated in the same dwelling, and the keeping of not more than four boarders or lodgers; provided that no window display shall be made nor any sign shown, other than one affixed to the building and not exceeding two square feet in area. Any such sign so permitted shall bear only the name and occupation of the owner.

(3) It shall be unlawful for any person to erect or construct on any site within said district any billboard or other sign except a bulletin board not exceeding twelve square feet in area erected in connection with a church, school, public museum or library, or one sign-board not exceeding six square feet in area appertaining to the sale or rent of the real property on which it is situated. Such sign-board shall comply with the yard and building line requirements in this by-law set forth, the same as applicable to buildings.

(4) The height of a building shall not exceed thirty-five feet nor two and one-half storeys.

(5) A front yard shall be provided of not less than twenty feet in depth; provided, however, that where the lots fronting on one side of any street between two intersecting streets are occupied by buildings at the time of the passage of this by-law to the extent of forty per centum or more of the total frontage (not including lots flanking on the street), no buildings shall hereafter be erected or structurally altered so as to project beyond the average depth of the existing yards; and provided, further, that no front yard shall be required to be greater than the said average depth nor greater than thirty feet, nor greater than the deeper front yard on adjoining sites where both such sites are occupied by buildings.

(6) A rear yard shall be provided of not less than twenty-five feet in depth.

(7) (a) A side yard shall be provided on each side of the building of not less than ten per centum of the width of the site; provided that the maximum width of any side yard need not exceed five feet; and when any side wall contains any window which exclusively lights or ventilates a room used for human habitation, the adjoining side yard shall not be less than four feet.

(b) On a corner site the provisions of the next preceding subsection hereof shall apply to both sides of the building; provided, however, that in the case of a corner site at the rear of which (whether a lane intervenes or not) is a site fronting

on a street which flanks such corner site, the width of the side yard on the corner site along the flanking street shall be not less than one-half of the depth of the front yard on the site in the rear of such corner site; and no accessory building on such corner site shall project beyond the front yard line of the site in the rear; provided, further, that this regulation shall not be so interpreted as to reduce the buildable width of a corner site to less than twenty-six feet.

(8) (a) A site area shall be at least four thousand eight hundred square feet per family, except in the case of a lot of lesser area which is subdivided, according to registered plan of subdivision of record in the Land Registry Office for the Vancouver Land Registration District, at the time of the passing of this by-law.

(b) A site area may be reduced to three thousand six hundred square feet per family in the case of a subdivision or a resubdivision into lots which, in the opinion of the approving officer, having regard to the nature of the subdivisions of the surrounding property, would so warrant.

(B) TWO-FAMILY DWELLING DISTRICT.

9. (1) The provisions of this section and subsections hereof shall apply to buildings and uses of buildings and land situate within Two-family Dwelling Districts as defined, designated, delimited and described in this by-law, and as shown on the map or plan annexed hereto and marked as schedule "A" hereto.

(2) It shall be unlawful for any person hereafter to erect, construct, alter or reconstruct, or cause to be erected, constructed, altered or reconstructed, any building, or to occupy or use any building, premises or land within the boundaries of any district referred to, designated or described in this by-law as a Two-Family Dwelling District, save and except for any of the following uses, namely:

- (a) Building and uses permitted in One-family Dwelling Districts;
- (b) Two-family Dwellings;
- (c) Group houses comprising detached or semi-detached dwellings;
- (d) Private clubs, fraternities, lodges, excepting those the chief activity of which is a service customarily carried on as a business;
- (e) Sanitariums and hospitals other than for isolation cases, or for the treatment of animals;
- (f) Accessory buildings accessory to any of the aforesaid uses, provided that;

(aa) A private garage not constructed as a part of the main building shall be situated not less than sixty feet from the street in front, nor less than five feet from any other street;

(bb) A private stable or other building used to shelter domestic animals or birds, when permitted under the provisions of section 18 (1) of this by-law, shall be located not less than sixty feet from the street in front nor less than twenty feet from any other street nor less than thirty feet from any dwelling.

(3) The provisions of subsections (4), (5), (6) and (7) of section 8 of this by-law relating to the height of buildings, front yard, rear yard and side yard requirements in or for One-family Dwelling Districts shall apply, also, to Two-family Dwelling Districts.

(4) (a) A site area shall be at least twenty-four hundred square feet per family.

(b) In the case of a one-family dwelling, the provisions of subsection (8) of section 8 of this by-law relating to site area requirements in or for One-family Dwelling Districts shall apply.

(C) THREE-STOREY MULTIPLE DWELLING DISTRICT.

10. (1) The provisions of this section and subsections hereof shall apply to buildings and uses of buildings and land situate within Three-storey Multiple Dwelling Districts as referred to

and defined, designated, delimited and described in this by-law, and as shown on the map or plan annexed hereto and marked as schedule "A" hereto.

(2) It shall be unlawful for any person hereafter to erect, construct, alter or reconstruct, or cause to be erected, constructed, altered or reconstructed, any building, or to occupy or cause any building, premises or land situate within the boundaries of any district referred to, defined, designated or described in this by-law as a Three-storey Multiple Dwelling District, save and except for any of the following uses, namely:

- (a) Buildings and uses permitted in the Two-family Dwelling District;
- (b) Multiple dwellings; provided that group houses, row houses or terraces shall not comprise more than four attached dwellings;
- (c) Hotels or apartment hotels, boarding or lodging houses, excepting those containing business for other than the sole convenience of the guests in the building;
- (d) Institutions of an educational or philanthropic nature.
- (e) Accessory buildings and uses customarily incident to any of the above uses when located on the same site and not involving the conduct of a business, which said accessory buildings may include a storage garage; but if such storage garage is not constructed as a part of the main building, it shall be situated not less than sixty feet from the street in front thereof, nor less than five feet from any other street.

(3) The height of a building shall not exceed forty-five feet nor, in any event, more than three storeys.

(4) The provisions of subsection (5) of section 8 of this by-law relating to the requirements respecting front yards shall apply; also, to Three-storey Multiple Dwelling Districts.

(5) A rear yard shall be provided of not less than twenty-five feet in depth for interior sites, nor less than fifteen feet for corner sites.

(6) (a) A side yard shall be provided for as follows:

For a building two and one-half storeys or less in height, there shall be a side yard on each side of the building of not less than ten per centum of the width of the site, provided that the maximum width of a side yard need not exceed five feet. For buildings more than two and one-half storeys in height, each side yard shall be increased in width by one foot for each additional storey above the second, and shall, further, be not less than one and one-quarter inches in width for each foot of building length from front to rear; provided that this regulation shall not apply to the side yard on a corner site along the flanking street or lane. When any side wall contains a window which exclusively lights or ventilates a room used for human habitation, the adjoining side yard shall not be less than four feet.

(b) The provisions of subsection (7) of section 8 of this by-law respecting side yards for corner sites in and for One-family Dwelling Districts shall also apply in respect of corner sites in Three-storey Multiple Dwelling Districts.

(7) (a) Save and except in respect of an hotel, a site area shall be at least seven hundred and fifty square feet per family or housekeeping unit.

(b) In the case of a one-family or two-family dwelling, the provisions of subsection (4) of section 9 of this by-law relating to site area requirements for Two-family Dwelling Districts shall apply.

(D) SIX-STOREY MULTIPLE DWELLING DISTRICT.

11. (1) The provisions of this section and subsections hereof shall apply to buildings and uses of buildings and land situate within Six-storey Multiple Dwelling Districts referred to and designated, described and delimited in this by-law and as shown on the map or plan annexed hereto and marked as schedule "A" hereto.

(2) It shall be unlawful for any person hereafter to erect, construct, alter or reconstruct, or cause to be erected, constructed, altered or reconstructed, any building, or to occupy or use any building, premises or land within the boundaries of any district referred to and designated, defined or described in this by-law as a Six-storey Multiple Dwelling District, save and except for any of the following uses, namely:

- (a) Buildings and uses of buildings and land permitted in and for Three-storey Multiple Dwelling Districts.

HEIGHT.

(3) The height of a building shall not exceed seventy-five feet nor six storeys.

FRONT YARD.

(4) A front yard shall be provided of not less than twelve feet in depth.

REAR AND SIDE YARDS.

(5) The provisions of subsections (5) and (6) of section 10 of this by-law respecting the requirements for rear yards and side yards in and for Three-storey Multiple Dwelling Districts shall also apply to Six-storey Multiple Dwelling Districts.

(6) (a) Save and except in respect of an hotel, a site area shall be provided per family or housekeeping unit of not less than the number of square feet obtained by dividing seventeen hundred and twenty square feet by the number of storeys used for dwelling purposes; provided that the maximum area need not exceed seven hundred and fifty square feet per family or housekeeping unit.

(b) In the case of a one-family or two-family dwelling, the provisions of subsection (4) of section 9 of this by-law relating to site area requirements for Two-family Dwelling Districts shall apply.

(E) LOCAL COMMERCIAL DISTRICT.

12. (1) The provisions of this section and subsections hereof shall apply to buildings and uses of buildings and land situate within Local Commercial Districts as referred to and defined, designated, delimited and described in this by-law and as shown on the map or plan annexed hereto and marked as schedule "A" hereto.

(2) It shall be unlawful for any person to erect, construct or place, or cause to be erected, constructed or placed, on or upon any land situate within the area of any Local Commercial District any of the following buildings, works or premises hereinafter specified, or to establish, undertake, or carry on in any such district any of the following businesses, operation, or undertakings hereinafter specified, that is to say:

- (a) Buildings and uses prohibited in and excluded from Three-storey Commercial Districts;
- (b) Funeral undertaking establishment;
- (c) Candy or jam factory, dyeing and cleaning works, laundry or printing shop.

(3) The provisions of subsections (4) and (6) of section 8 of this by-law relating to the requirements in respect of the height of buildings, and in respect of rear yards in and for One-family Dwelling Districts shall also apply in and for Local Commercial Districts.

(4) No front yard is required except in cases where on one side of a street between two intersecting streets some sites are in a dwelling district and other sites are in a commercial district, in which event the front yard requirements in and for One-family Dwelling Districts shall apply to all such sites.

SIDE YARDS.

(5) (a) Where a Local Commercial District adjoins any dwelling district without the intervention of a street or lane, there shall be provided a side yard of not less than three feet in width; and if a side yard in any such district be provided where not required by the provisions of this by-law, the same shall be not less than three feet in width.

(b) In the case of a dwelling, the provisions of subsection (7) of section 8 relating to the requirements of side yards in One-family Dwelling Districts shall also apply thereto.

(c) In the case of a corner site (whether a lane shall intervene or not) at the rear of which is a site fronting on a street which flanks such corner site, the provisions of subsection (7) of section 8 of this by-law respecting side yard requirements in or for One-family Dwelling Districts shall apply, also, as regards such corner site along the flanking street.

SITE AREA.

(6) A site area shall consist of at least twenty-four hundred square feet per family.

(F) THREE-STOREY COMMERCIAL DISTRICT.

13. (1) The provisions of this section and subsections hereof shall apply to buildings and uses of buildings and land situate within Three-storey Commercial Districts as referred to and defined, designated, delimited and described in this by-law and as shown on the map or plan annexed hereto and marked as schedule "A" hereto.

(2) It shall be unlawful for any person to erect, construct, or place, or to cause to be erected, constructed, or placed, on or upon any land situate within the area of any Three-storey Commercial District any of the following buildings, works, or premises hereinafter specified, or to establish, undertake, or carry on in any such Three-storey Commercial District any of the following businesses, industries, operations or undertakings hereinafter specified, that is to say:

- (a) Buildings and uses prohibited in or excluded from Light Industrial Districts by the provision of section 15 of this by-law;
- (b) Any kind of manufacture or treatment other than the manufacture or treatment of products clearly incidental to the conduct of a retail business conducted on the premises; provided, however, that a bakery, candy or jam factory, dyeing and cleaning works, laundry or printing shop may be undertaken or carried on in said district if not more than five thousand square feet of floor area are used in any such business;
- (c) Blacksmith or horseshoeing shop;
- (d) Bottling works;
- (e) Building material storage yard;
- (f) Carting, express, hauling or storage yard;
- (g) Contractor's plant or storage yard;
- (h) Coal, coke or wood yard;
- (i) Cooperage works;
- (j) Ice plant or storage house of more than five tons capacity;
- (k) Livery stable;
- (l) Lumber yard;
- (m) Machine shop;
- (n) Veterinary hospital or boarding kennel;
- (o) Wholesale milk distributing station;
- (p) Storage warehouse, except one the use of which is incidental to a building or use permitted;
- (q) Public garage, service or gas station, unless it shall have no entrance or exit for motor-vehicles within two hundred feet of an entrance or exit of a fire-hall, public or private school, playground, public library, church, hospital, children's or old people's home, or other similar public or semi-public institution, in which event such business may be carried on.

HEIGHT.

(3) The height of any building shall not exceed forty-five feet nor three storeys.

FRONT YARDS.

(4) The provisions of subsection (4) of section 12 relating to front yard requirements in and for Local Commercial Districts shall apply in and to Three-storey Commercial Districts.

REAR YARD.

(5) (a) A rear yard shall be provided of a minimum depth of fourteen feet, provided that where a site is bounded at the rear by a lane, the depth of rear yard within the site need not exceed four feet; but if there be no lane, the depth of rear yard need not exceed ten feet.

(b) In the case of a building or portion thereof, used as a dwelling erected on a lot of greater depth than sixty-six feet, the rear yard requirements for Multiple Dwelling Districts shall apply as provided in subsection (5) of section 10 of this by-law.

SIDE YARD.

(6) (a) Where a Three-storey Commercial District adjoins any dwelling district without the intervention of a street or lane, there shall be provided a side yard of not less than three feet in width; and if a side yard in any such district is provided where not required by the provisions of this by-law, the same shall be not less than three feet in width.

(b) In the case of a dwelling, the provisions of subsection (6) of section 10 relating to the requirements of side yards in Three-storey Multiple Dwelling Districts shall also apply thereto.

(c) In the case of a corner site (whether a lane shall intervene or not), at the rear of which is a site fronting on a street which flanks such corner site, the provisions of subsection (7) of section 8 of this by-law respecting side yard requirements in or for One-family Dwelling Districts shall apply, also, as regard such corner site along the flanking street.

SITE AREA.

(7) The provisions of subsection (7) of section 10 relating to site area requirements in and for Three-storey Multiple Dwelling Districts shall also apply in and to Three-Storey Commercial Districts.

(G) SIX-STOREY COMMERCIAL DISTRICTS.

14. (1) The provisions of this section and subsections hereof shall apply to buildings and uses of buildings and land situate within Six-storey Commercial Districts as referred to and defined, designated, delimited and described in this by-law and as shown on the map or plan annexed hereto and marked as schedule "A" hereto.

(2) It shall be unlawful for any person hereafter to erect, construct, alter or reconstruct, or cause to be erected, constructed, altered, or reconstructed, any building, or to occupy or use any building, premises, or land within the boundaries of any district referred to, designated, defined or described in this by-law as a Six-storey Commercial District, save and except for any of the following uses, namely:

(a) Buildings and uses permitted in and for Three-storey Commercial Districts as provided by section 13 of this by-law.

(3) The height of a building shall not exceed seventy-five feet nor six storeys.

SIDE YARD

(4) (a) Where a Six-storey Commercial District adjoins any dwelling district without the intervention of a street or lane there shall be provided a side yard of not less than three feet in width; and if a side yard in any such district be provided where not required by the provisions of this by-law, the same shall be not less than three feet in width.

(b) In the case of a dwelling, the provisions of subsection (6) of section 10 relating to the requirements of side yards in Three-storey Multiple Dwelling Districts shall also apply thereto.

REAR YARDS.

(5) The provisions of subsection (5) of section 13 of this by-law respecting rear yard requirements in and for Three-storey Commercial Districts shall apply in and to Six-storey Commercial Districts.

SITE AREA.

(6) The provisions of subsection (6) of section 11 relating to site area requirements in and for Six-storey Multiple Dwelling Districts shall apply in and to Six-storey Commercial Districts.

(H) SIX-STOREY LIGHT INDUSTRIAL DISTRICT.

15. (1) The provisions of this section and subsection hereof shall apply to buildings and uses of buildings and land situate within Six-storey Light Industrial Districts as referred to and defined, designated, delimited and described in this by-law and as shown on the map or plan annexed hereto and marked as schedule "A" hereto.

(2) It shall be unlawful for any person to erect, construct, or place, or cause to be erected, constructed, or placed, on or upon any land situate within the area of a Six-storey Light Industrial District any of the following buildings, works or premises hereinafter specified, or to establish, undertake or carry on in any such district any of the following businesses, industries, undertakings or operations hereinafter specified, namely:

- (1) Abattoir;
- (2) Acetylene gas manufacture or storage;
- (3) Acid manufacture;
- (4) Ammonia, bleaching powder or chlorine manufacture;
- (5) Arsenal;
- (6) Asphalt manufacture or refining;
- (7) Bag cleaning;
- (8) Blast furnace;
- (9) Boiler works;
- (10) Brewery;
- (11) Brick, tile or terra-cotta manufacture;
- (12) Candle manufacture;
- (13) Celluloid manufacture;
- (14) Coke ovens;
- (15) Compressed gas works;
- (16) Crematory;
- (17) Creosote treatment or manufacture;
- (18) Disinfectants manufacture;
- (19) Distillation of bones, coal or wood;
- (20) Distillery;
- (21) Dyestuff manufacture;
- (22) Exterminator and insect poison manufacture;
- (23) Emery cloth and sandpaper manufacture;
- (24) Fat rendering;
- (25) Fertilizer manufacture or storage;
- (26) Fireworks or explosive manufacture or storage;
- (27) Fish-smoking, curing, canning or cleaning;
- (28) Forge plant;
- (29) Gas (illuminating or heating) manufacture;
- (30) Glue, size or gelatine manufacture;
- (31) Gunpowder manufacture or storage;
- (32) Incineration or reduction of garbage, dead animals, offal or refuse;
- (33) Iron, steel, brass or copper foundry;
- (34) Lampblack manufacture;
- (35) Mills; planing, saw or shingle;
- (36) Oilcloth or linoleum manufacture;
- (37) Oiled or rubber goods manufacture;
- (38) Ore reduction;
- (39) Paint, oil, shellac, turpentine or varnish manufacture;
- (40) Paper and pulp manufacture;
- (41) Petroleum products; refining or wholesale storage of explosive derivatives thereof;
- (42) Potash works;
- (43) Pyroxyline manufacture;
- (44) Rock crusher;
- (45) Rolling mill;
- (46) Rubber or gutta-percha manufacture or treatment;
- (47) Salt works;
- (48) Sausage manufacture;
- (49) Sauerkraut manufacture;
- (50) Shoe or stove polish manufacture;

- (51) Smelters;
- (52) Soap (bar) manufacture;
- (53) Soda and compound manufacture;
- (54) Stockyards;
- (55) Stone mill or quarry;
- (56) Storage or baling of scrap paper, bottles, iron, rags, bones or junk;
- (57) Sulphuric, nitric or hydrochloric acid manufacture;
- (58) Tallow, grease or lard manufacture, or refining from animal fat;
- (59) Tanning, curing or storage of raw hides or skins;
- (60) Tar distillation or manufactures;
- (61) Tar roofing or waterproofing manufacture;
- (62) Tobacco (chewing) manufacture or treatment;
- (63) Vinegar manufacture;
- (64) Wool pulling or scouring;
- (65) Yeast plant;
- (66) And, in general, those uses which may be obnoxious or offensive by reason of emission of odour, dust, smoke, gas noise, or vibration.

HEIGHT.

(3) The height of a building shall not exceed seventy-five feet nor six storeys.

REAR YARD.

(4) The provisions of subsection (5) of section 13 relating to rear yard requirements in and for Three-storey Commercial Districts shall apply in and to Six-storey Industrial Districts.

SIDE YARDS.

(5) Where a Light Industrial District adjoins a Dwelling District without the intervention of a street or lane, a side yard shall be provided of not less than three feet in width. In the case of a dwelling, the provisions of subsection (6) of section 10 respecting side yard requirements for Multiple Dwelling Districts shall apply.

(6) The provisions of subsection (6) of section 11 respecting site area requirements of and for Six-storey Multiple Dwelling Districts shall apply in and to Six-storey Light Industrial Districts.

(I) GENERAL BUSINESS DISTRICT.

16. (1) The provisions of this section and subsection hereof shall apply to buildings and uses of buildings and land situate within the General Business District as referred to and defined, designated, delimited and described in this by-law and as shown on the plan annexed hereto and marked as schedule "A" hereto.

(2) It shall be unlawful for any person hereafter to erect, construct, alter, or cause to be erected, constructed, or altered, any building, or to occupy or use any building, premises, or land within the boundaries of any district referred to, defined, designated, or described in this by-law as a General Business District, save and except for any of the following uses, namely:

(a) Buildings and uses of buildings and land permitted and authorized by the provisions of section 15 of this by-law for Six-storey Light Industrial Districts.

HEIGHT.

(3) (a) Subject to the provisions of subsection (b) hereof, the height of a building shall not in any case exceed one hundred and twenty feet nor ten storeys; provided, however, that in the case of a building containing a base area of seven thousand square feet or more, the main portion of such building may be surmounted by a superstructure, the area of the base of which shall not exceed thirty-three per centum of the area of the base of the main portion; provided, further, that the height of a building with such superstructure shall not exceed two hundred feet, and such superstructure shall not contain more than eight storeys.

(b) The height of a building shall not exceed a height at the street line of one and one-half times the width of the street;

but above the height permitted at the street line, three feet may be added to the height of the building for each foot that the building, or portion thereof, is set back from the street line; provided that the total height of a building shall not exceed two and one-half times the width of the street on which it faces.

YARDS.

(4) The provisions of subsection (5) of section 15 of this by-law respecting side yard requirements of and for Six-storey Industrial Districts shall apply in and to General Business Districts.

(J) HEAVY INDUSTRIAL DISTRICTS.

17. (1) The provisions of this section and subsections hereof shall apply to buildings and uses of buildings and land within Heavy Industrial Districts as referred to, designated, delimited and described in this by-law and as shown on the plan annexed hereto and marked as schedule "A" hereto.

(2) Subject to the provisions of this by-law and all other by-laws of the city where applicable thereto, all buildings and uses of buildings and land, not otherwise contrary to law, shall be, and are hereby permitted and authorized in Heavy Industrial Districts; provided, however, that no dwelling or other building for human habitation shall be erected or used in any such district, except such as shall be necessary for the exclusive accommodation of caretakers or watchmen or persons similarly employed, unless sanctioned and approved by the Council of the city under the provisions of subsection (2) of section 18 of this by-law.

HEIGHT.

(3) The height of a building shall not exceed one hundred feet nor eight storeys.

SIDE YARDS.

(4) Side yards, if provided, shall be not less than three feet in width.

(5) The provisions of subsections (5) and (6) of section 11 of this by-law respecting rear yard, side yard and site area requirements of and for Six-storey Multiple Dwelling Districts shall apply to dwellings authorized, permitted or approved in Heavy Industrial Districts under the provisions of subsection (1) of section 18 of this by-law.

SPECIAL CONDITIONS.

SPECIAL USES.

18. (1) Notwithstanding anything contained in this by-law, it shall be unlawful for any person to undertake or carry on within the City of Vancouver, without the consent of the Council therefor, any of the following businesses, undertakings, trades or industries, or to use or enjoy or employ any site within the said city in or for any of the following uses unless and until the said site for such uses shall have been approved by the said Council:

- (a) Keeping of horses, cows, goats, pigs, sheep, poultry, or the keeping of dogs for breeding purposes;
- (b) Keeping of houseboats;
- (c) Keeping of livery stables, sale or boarding stables, or stables in which horses are to be kept for hire or delivery or express purposes;
- (d) Keeping of dog hospital;
- (e) Keeping of live poultry for retail or wholesale trade;
- (f) Manufacture or making of cement, lime, gypsum or plaster of paris;
- (g) Keeping of abattoir, or slaughter house;
- (h) Manufacture of acids;
- (i) Compressed gas works;
- (j) Distillation of bones;
- (k) Fat rendering;
- (l) Manufacture or storage of explosives;
- (m) Manufacture or storage of fertilizer;
- (n) Manufacture of gas (illuminating or heating);
- (o) Reduction or dumping of garbage, refuse, offal, or dead animal remains;

- (p) Manufacture of glue, size or gelatine;
- (q) Refining or wholesale storage of petroleum products and explosive derivatives therefrom;
- (r) Smelting of tin, copper, zinc, iron or other ores;
- (s) Manufacture of soap, or soap-boiling works;
- (t) Keeping or operating of stockyards;
- (u) Storage or bailing of scrap paper, bottles, iron, rags, bones or junk;
- (v) Tanning, curing or storage of raw hides or skins.

(2) It shall be unlawful for any person, without the approval of the Council of the City, to erect, construct, alter, or reconstruct any dwelling or other building for human habitation in any Heavy Industrial District which is not used, or intended or necessary to be used, for the accommodation of caretakers or watchmen or persons similarly employed.

HEIGHT OF BUILDINGS.

(3) (a) Private dwellings in the two-and-one-half-storey districts may be increased in height by not more than ten feet when side yards each of not less than fifteen feet in width shall be provided. Such dwellings shall not exceed three storeys in height.

(b) In districts where the limitation on the height of buildings is less than seventy-five feet, according to the provisions of this by-law, it shall be lawful where such use is permitted to erect a public or semi-public building, public utility building, sanitarium, hospital, or school to a height not exceeding seventy-five feet if side yards shall be provided having a width for each such side yard of one foot for every foot such building exceeds the height limit of the district in which the same is situate. Such side yards shall be in addition to any other yards otherwise required or ordered by any of the provisions of this by-law applicable thereto.

(c) The limitation in respect of the height of buildings specified in this by-law shall not apply to grain elevators, sugar refineries or scenery lofts in theatres; nor shall such limitation apply to chimneys, towers, penthouses, monuments, cupolas, domes, spires and necessary mechanical appurtenances incident thereto, provided the same do not exceed ten per cent. of the area of the main building.

(d) In Central Business Districts, for a building located on a site at the intersection of streets of different widths, the height permitted on the wider street shall be allowed along the narrower street to a depth not exceeding one hundred and twenty feet from the wider street.

(e) No person shall use a basement for any purpose which use would bring such basement under the interpretation of a storey if the effect would be to cause the building in which such basement is situated to exceed the number of storeys allowed in the district in which the building is situate.

AREA

(4) (a) For the purpose of yard regulations, a two-family semi-detached (side by side) or duplex (one above the other) dwelling or a four-family double duplex dwelling, a row house, or a terrace of not more than four attached dwellings, shall be considered as one building occupying one site.

THROUGH SITE.

(b) A building on a through site shall have a front yard on each street in accordance with the front yard requirements of the district in which the site is located.

DWELLINGS ABOVE STORES.

(c) The side yard requirements for dwellings shall be waived where dwellings are erected above stores.

CORNICE.

(d) No cornice shall project over the street line more than five per cent. of the width of such street, and shall in no case project more than four feet.

GROUP HOUSES.

(e) In the case of group houses or apartments fronting upon a place, buildings may back upon the required side yard, provided that:

- (aa) For group houses, the required side yard shall be increased by one foot for each dwelling abutting thereon.
- (bb) For apartment houses, the required side yard shall be increased one foot for each stairway opening onto or served by such side yard.
- (cc) The width of the place shall be not less than thirty feet nor less than three times the width of the side yard as specified in this section; provided, further, that open, unoccupied porches may project into a required place not more than twenty per cent. of the width of such place. In a Two-family Dwelling District, the total width of the place shall not be less than fifty feet;
- (dd) Where a roadway is provided in the place or side yard, its width shall not be less than eighteen feet, and such width shall be in addition to that hereinbefore specified;
- (ee) All other requirements, including requirements in respect of rear yards, shall be complied with in accordance with the district in which such group houses or apartment are located.

OBSTRUCTION ON CORNER LOTS IN FRONT YARDS.

(f) On any corner lot on which a front yard is required by this by-law, no wall, fence or other structure shall be erected to a greater height than three feet; and no hedge, shrub or other growth shall be maintained in such location within such required front yard space as to cause danger to traffic by obstructing the view.

REAR YARDS OF LOTS LESS THAN 120 FEET IN DEPTH.

(g) On lots of less than one hundred and twenty feet in depth, and duly subdivided according to registered plan of subdivision of record in the Land Registry Office for the Land Registration District of Vancouver at the time of the passing of the by-law, the rear yard need in no case exceed twenty per cent. of the depth of such lot.

EXISTING BUILDINGS: USES AND REPAIRS.

19. (1) Any building lawfully under construction at the time of the passing of this by-law and lawfully completed according to and in compliance with the provisions of the Building By-law and all other by-laws of the city applicable thereto shall be deemed to be a building existing as at said date.

(2) The lawful use of land existing at the time of the passing of this by-law, although such use may not conform to the provisions of this by-law, may be continued; but if such non-conforming uses shall be discontinued at any time after the passing of this by-law, then, and in such event, any further use of such land shall be in conformity, and shall comply, with the provisions of this by-law.

(3) The lawful use of a building existing at the time of the passing of this by-law may be continued, although such use does not conform to the provisions of the by-law, and such use may be extended through such building; provided, however, no structural alterations except those required by any statute or by any by-law shall be made therein.

(4) Where no structural alterations are made in a building of a non-conforming use, such use may be changed to a use of a similar or higher classification, according to the provisions of this by-law.

(5) A change of tenants or occupants of any premises or building shall not be deemed to affect the use of the premises or building within the meaning of this section.

(6) A building lawfully constructed and existing at the time of the passage of this by-law, but which does not conform to the provisions of this by-law in respect to any or all of the provisions relating to the yard, height, site area or building line requirements of the district in which such building is located, may be repaired, but may not be altered or reconstructed in any respect that would further contravene any of the provisions of this by-law.

ENFORCEMENT.

20. (1) (a) Application for a building permit shall state the proposed use of the building, and be accompanied by a ground plan in duplicate showing the site lines, the actual dimension of the lot or lots and building or buildings, together with such other information in detail as may be necessary to comply with the provisions of this by-law applicable thereto. When requested by the City Architect, an applicant for a building permit shall deposit with the City Architect a plan of survey certified by a British Columbia Land Surveyor showing any or all of the above information deemed necessary by the City Architect.

(b) If a side site line does not coincide with the lot line, the City Architect shall procure from the owner the execution and registration of a covenant with the city to maintain the required side yard as an appurtenance to the proposed building unless sufficient evidence is filed that the title to the land covered by such yard cannot be conveyed to a *bona fide* purchaser for value without notice.

(c) It shall be the duty of the City Architect to keep and maintain a complete record of all such applications, particulars and plans. Before any permit shall be issued for the construction of any building for the use of any premises, the City Architect shall satisfy himself that the proposed construction or use shall not be in violation of any of the provisions of this by-law, and if the City Architect shall ascertain that such building or use in respect of which such application for permit has been made is in violation of any of the provisions of this by-law, the City Architect shall refuse such application for a building permit.

(3) The City Architect, License Inspector, and their respective assistants, and any other civic officials appointed to administer or enforce the provisions of this by-law, are hereby authorized to enter at all reasonable times upon any property or premises to ascertain whether the regulations and provisions herein contained are being, or have been, complied with. It shall be unlawful for any person to prevent or obstruct, or seek to prevent or obstruct, any of such officials in or from the carrying out of any of their official duties under this by-law.

(4) Where any building, or part of a building or erection, has been constructed or placed in contravention of this by-law, the City Architect, after giving reasonable notice to the owner requiring him to pull down or remove the same, and specifying therein the provision or provisions of the by-law so contravened, and after giving the owner an opportunity of being heard by the Council in regard thereto, may, with the approval of the Council, pull down or remove the building, or part of the building or erection, so constructed or placed in contravention of this by-law at the expense of the owner, and payment of such expense may be enforced against the owner by the Corporation in an action in any court of competent jurisdiction.

APPEALS.

21. (1) An appeal shall lie to the Board of Appeal provided in section 16 of the "Town Planning Act." Such board of Appeal shall decide all appeals under this by-law.

(2) Such Board of Appeal shall consist of three persons, one to be appointed by the Council of the City of Vancouver, one to be appointed by the Lieutenant-Governor-in-Council of the Province of British Columbia, and the third member of such Board shall be appointed by the other two appointees above named, and shall act as Chairman of such Board of Appeal.

(3) (a) In considering appeals, such Board of Appeal shall adhere to the provisions of this by-law, but may make such relaxations as may be required to meet special cases, and in such cases may impose necessary or reasonable conditions or make reasonable structural requirements, and shall endeavor to see that substantial justice is done, and that the interests of any individuals are not unduly or unnecessarily sacrificed for the benefit of the community. The Board of Appeal may not, however, permit a use in a district in which such use is prohibited

by this by-law, but may recommend to the Council of the city that the boundaries of any district be altered.

(b) The Board of Appeal may, however, in the case of a non-conforming use where special circumstances favorable to the extension of the use exist and where the amenity of surrounding property can be preserved by an exercise of the Board's power to impose conditions and make structural requirements, allow the use to be extended, and fix the limits of such extension. In exercising this power, the Board shall see that the widest publicity is given to the application, and shall pay due attention to the reasonable expression of opinion of surrounding owners.

(4) The decision in writing of two members of the Board of Appeal shall constitute the decision of the Board. No further appeal shall lie from the decision of such Board of Appeal.

(5) An appeal shall lie to the Board of Appeal in the following cases:

- (a) By any person who is dissatisfied with the decision of the City Architect or of any official charged with the enforcement of this by-law;
- (b) By any person desiring to obtain the benefit of any exception contained in this by-law;
- (c) By any person claiming that, owing to special conditions, the literal enforcement of this by-law would result in unnecessary hardship;
- (d) By any person who is prejudiced or aggrieved by any decision, order, or act of any official done in pursuance of or to enforce the provisions of this by-law;
- (e) By any person desiring to erect, construct, locate, alter, reconstruct, maintain or carry on a sanitarium, hospital, isolation hospital, cemetery, aeroplane landing field, gravel bunkers for limited periods, community centre, riding or driving school, an institution of an educational, philanthropic or charitable nature, or a public utility in a district from which it is prohibited by this by-law;
- (f) By any person desiring to reconstruct within twelve months a building located in a district restricted against the use which has been destroyed by fire or other calamity to the extent of not more than seventy-five per cent. of the assessed value of such buildings.

(6) Any person exercising the right of appeal to such Board of Appeal hereby constituted shall deposit with the Secretary of the Board of Appeal within ten days of the decision, judgment or order complained of a Notice of Appeal therefrom, which shall, in a simple manner, state the description of the property of such person affected thereby, and the grounds of complaint. The appellant shall therein give an address to which all notices may be mailed.

(7) The mailing by registered mail, posted to the address of such applicant described in such notice referred to in the subsection hereof, shall be deemed to be good and sufficient notice of any decision, order, matter or thing in respect of which notice may be necessary under the provisions of this by-law or of the "Town Planning Act."

(8) The Secretary of the Board of Appeal shall notify the Chairman of such Board of Appeal of such Notice of Appeal; and the Chairman of the Board of Appeal shall fix a convenient date for the hearing of such appeal. Five days' notice of such hearing shall be mailed by said Secretary to the appellant.

(9) Notice of such hearing shall be given by the Secretary of the Board of Appeal to the City Architect, to the Secretary of the Town Planning Commission, and, also, to owners of neighbouring property situate within one block or within such further distance or distances from the property affected in respect of which appeal has been made, as the Chairman of the Board shall direct; and a notice, on a form supplied by the Board, shall be posted by the appellant prominently upon the property affected or at the nearest street corner.

(10) The proceedings before such Board of Appeal shall be informal, and evidence need not be given under oath. Such Board of Appeal may, in all cases, take a view of the premises in respect of which appeal has been made. Any person whose property is affected by such appeal shall have a right to be heard and give evidence on the hearing of such appeal.

(11) The Board of Appeal shall give its decisions in writing, and the same shall be filed with the Secretary of the Board of Appeal, and such Secretary shall communicate the same to the appellants and to such city officials as may be concerned thereby, who shall carry out the purport of such decision, and shall issue a permit, or otherwise give effect to such decision upon the fulfilment by the appellant of any condition which may be imposed by the Board as set out in such decision.

VIOLATION OF PROVISIONS OF BY-LAW DEEMED AN INFRACTION.

22. Every person who violates any of the provisions of this by-law, or who causes, suffers or permits any act or thing to be done in contravention or in violation of any of the provisions of this by-law, or who neglects to do or refrains from doing anything required to be done by any of the provisions of this by-law, or who constructs, erects, reconstructs or alters, or causes to be reconstructed, erected, reconstructed, or altered, any building or other structure, or who uses or occupies any land or premises in manner prohibited by or contrary to any of the provisions of this by-law, or who otherwise does any act or thing which violates any of the provisions of this by-law, shall be deemed to be guilty of an infraction of this by-law, and shall be liable to the penalties hereby imposed.

PENALTY.

23. Any person guilty of an infraction of this by-law shall, upon conviction thereof before the Mayor, Police Magistrate, or any two Justices of the Peace, or other Magistrates having jurisdiction in the City of Vancouver, on the oath or affirmation of any credible witness, forfeit and pay, at the discretion of the said Mayor, Police Magistrate, Justices, or Magistrate or Magistrates convicting, a fine or penalty not exceeding the sum of one hundred dollars and costs for each offence; and in default of payment thereof forthwith, it shall be lawful for such Mayor, Police Magistrate, Justices, or other Magistrate or Magistrates convicting as aforesaid to issue a warrant under his or their hand and seal to levy the said fine or penalty and costs, or costs only, by distress and sale of the offender's goods and chattels; and in case of no distress, or insufficient distress, found to satisfy the said fine or penalty, it shall and may be lawful for the Mayor, Police Magistrate, Justices, or the Magistrate or Magistrates convicting as aforesaid to commit the offender to the common gaol, or any lock-up house in the City of Vancouver, for any period not exceeding two months (with or without hard labour) unless the said fine or penalty be sooner paid. For each day that a violation is permitted to exist, it shall constitute a separate offence.

24. By-laws in respect of certain residential areas, as therein provided, being by-laws respectively numbered as follows, that is to say, 1623, 1625, 1626, 1630, 1631, 1632, 1633, 1640, 1641, 1642, 1643, 1644, 1663, 1664, 1672, 1673, 1684, 1728, 1748, 1753, 1754, 1766, 1768, 1776, 1795, and 1816, and also Zoning By-law, being by-laws respectively numbered as follows, that is to say, 1830, 1841, 1862 and 1863 are hereby repealed.

25. This by-law shall come into force and take effect on and after the date of the passing hereof.

DONE AND PASSED in open Council, this 17th day of December, A.D. 1928.

LOUIS D. TAYLOR,
Mayor.

WM. McQUEEN,
City Clerk.

APPENDIX IV.

CORPORATION OF POINT GREY ZONING BY-LAW

Being By-law No. 727, 1927, and By-law No. 5, 1928
Consolidated for Convenience Only.

A by-law to regulate the location and use of buildings and the use of land within the Municipality of Point Grey; to limit the height of buildings; to prescribe building lines and the area of yards and other open spaces; and for these purposes to divide the Municipality into districts.

Whereas after considering the recommendation of the Point Grey Town Planning Commission, it appears advisable and expedient to make regulations and divide the Municipality into districts as hereinafter provided, pursuant to the Town Planning Act, having due regard to:

- (a) The promotion of public health, safety, convenience and welfare;
- (b) The prevention of the overcrowding of land and the preservation of the amenity of residential districts;
- (c) The securing of adequate provisions for light, air and reasonable access;
- (d) The value of the land and the nature of its use and occupancy;
- (e) The character of each district, the character of the buildings already erected, and the peculiar suitability of the district for particular uses;
- (f) The conservation of property values and the direction of building development.

And whereas opportunity of being heard on the matters covered herein has been duly afforded to all persons who might be affected thereby;

Now therefore the Reeve and Council of the Corporation of Point Grey, in open meeting assembled, hereby enact as follows:

TITLE.

1. This by-law may be cited for all purposes as "Zoning By-law No. 727, 1927" (with amendments).

DEFINITIONS.

2. In this by-law, unless the context otherwise requires, the following terms and expressions shall have the following respective meanings:

ACCESSORY BUILDING: A subordinate building or a portion of the main building the use of which is incidental to that of the main building or a building the use of which is incidental to the use of the land.

BASEMENT: A storey the floor of which is more than 12 inches but less than one-half of the height from floor to ceiling of the storey below the average level of the adjoining street, sidewalk, or ground, and shall include the lowest storey of a building when the height from the floor to ceiling is less than 8 feet.

BOARD OF APPEAL: A Board constituted pursuant to Section 16 of the "Town Planning Act."

CORNER SITE: A site situated at the intersection or junction of two or more streets.

CURB LEVEL: The level of the established curb in front of the building measured at the centre of such front. Where no curb has been established the Municipal Engineer shall establish such curb level or its equivalent for the purpose of this by-law.

DISTRICT: A district constituted by Section 3 of this by-law.

FRONT LINE OF THE BUILDING: The extended line of the wall of the building or of any projecting portion of the building, except steps, sills, belt courses, cornices, eaves and fire escapes) which faces the front line of the site.

FRONT LINE OF THE SITE OR FRONT SITE LINE: The boundary line of the site and the street in front.

FRONT YARD: A yard extending across the full width of the site from the front line of the site to the front line of the building.

GARAGE: A building or land used for housing or care of self-propelled vehicles.

HALF-STOREY: A storey under a gable hip or gambrel roof, the wall plates of which on at least two opposite exterior walls are not more than two feet above the floor of such storey.

HEIGHT OF BUILDING: The vertical distance measured in a straight line from the curb level to the highest point of the roof surface if a flat roof; to the deck line of a mansard roof, and, to the mean height level between the eaves and ridge of a gable, hip or gambrel roof. When a building is situated on ground above the curb level such height shall be measured from the average elevation of the finished grade of the site along the front of the building. On through sites one hundred and twenty feet or less in depth the height of a building may be measured from the curb level on either street. On through sites more than one hundred and twenty feet in depth the height regulations and basis of height measurements for the street permitting the greater height shall apply to a depth of not more than one hundred and twenty feet from that street.

INTERIOR SITE: A site other than a corner site.

LANE OR ALLEY: A public way which affords only a secondary means of access to a site at the side or rear.

MULTIPLE DWELLINGS: A building or portion thereof designed for use as a dwelling for more than two families or housekeeping units or for two families or housekeeping units living one above the other or designed to afford board or lodging or both to guests for remuneration, including an apartment, boarding or lodging house, an Hotel or an apartment hotel.

NON-CONFORMING USE: A use of a building or land that does not conform with the regulations of the district in which it is situated.

ONE-FAMILY DWELLING: A separate building designed for use exclusively as a dwelling for one-family or housekeeping unit.

OPEN SPACE: The portions of a site (including yards and courts or portions thereof) which are unoccupied and unobstructed by buildings from the ground upward.

PRIVATE GARAGE: A garage with capacity for housing not more than three self-propelled vehicles; provided, however, that a private garage may exceed a three-vehicle capacity if the area of a site contains not less than sixteen hundred square feet for each vehicle.

PRIVATE STABLE: A stable with capacity for not more than two horses, two cows or four goats, provided, however, that on sites having an area of more than five thousand square feet the capacity of a private stable may be increased by one horse, or cow, for each additional twenty-five hundred square feet of site area.

PUBLIC GARAGE: A garage where self-propelled vehicles are equipped for operation, repaired, kept for hire or dismantled.

PUBLIC STABLE: A stable other than a private stable.

REAR LINE OF THE BUILDING: The extended line of the wall of the building which faces the rear line of the site.

REAR LINE OF THE SITE OR REAR SITE LINE: The boundary line of the site opposite the front line of the site.

REAR YARD: A yard extending across the full width of the site from the rear line of the site to the rear line of the building; provided, however, that in computing the required depth of a rear yard which is bounded at the rear by a lane or alley one half

the width of the lane or alley may be assumed to be a part of the yard.

SERVICE STATION: A building or land used for serving self-propelled vehicles with gasoline, oil, tires, and other supplies.

SIDE YARD: A yard extending from the front yard to the rear yard and measured between the side line of the site and the side line of the building, or any projection thereof.

SITE: An area of land used or intended to be used as a unit for any purpose.

SITE LINES: The lines bounding a site.

STORAGE GARAGE: A garage for the housing only of self-propelled vehicles, other than a private garage.

STOREY: That portion of a building included between the surface of any floor and the surface of the floor next above it, or if there be no floor above it then the space between such floor and the ceiling next above it, provided that a basement shall not be counted as a storey in applying the height of building limitations unless it is designed for or used for commercial or industrial purposes or as living quarters for someone other than a servant or janitor.

THROUGH SITE: A site having frontage on two parallel or approximately parallel streets.

TWO-FAMILY DWELLING: A building designed for use exclusively as a dwelling for two families or housekeeping units not living the one above the other.

YARD: A part of the site which is unoccupied and unobstructed by buildings from the ground upward, except the following:

- (a) The ordinary projections of sills, belt courses, cornices and eaves; provided, however, that none of these shall project into a minimum side yard more than twenty-four inches.
- (b) Fire-proof fire escapes.
- (c) The ordinary projections of chimneys, in side and rear yards only, provided, however, that no chimney shall project into a minimum side yard more than eighteen inches.
- (d) Accessory buildings not exceeding twelve feet in height occupying not more than thirty per cent. of the area of a rear yard.

DISTRICTS.

3. For the purpose of this by-law the Municipality of Point Grey is hereby divided into "districts" of the following seven kinds, viz:

- One-family District;
- Two-family District;
- Multiple Dwelling Districts;
- Local Business Districts;
- Commercial Districts;
- Light Industrial Districts;
- Heavy Industrial Districts.

And districts are hereby established and defined as follows: (Legal description of each district given in detail.)

GENERAL RULES.

4. (1) No person shall erect, construct, locate, alter, reconstruct, repair or maintain any building or locate or carry on any industry, business, trade or calling or use any land or building within any district, save as is herein stated to be permitted within the district, nor without complying with the regulations, limitations, restrictions and requirements applicable thereto herein prescribed.

(2) (a) No yard or other open space provided about any building shall be reduced in size or area below the requirements herein contained.

(b) No portion of a minimum yard or other open space required about any building shall provide any portion of a yard or open space for any other building.

(3) Where land is used for the erection or placing of a structure other than a building or a fence (e.g. a billboard) the structure shall comply with the height, yard, open space and building line requirements herein as if it were a building.

ONE-FAMILY DISTRICT.

5. In the One family District -

(1) The following buildings and uses of buildings and land are permitted:

- (a) One-family dwellings.
- (b) Churches.
- (c) Schools, elementary and high.
- (d) Golf courses and public museums, libraries, parks and playgrounds.
- (e) Farming and truck gardening.
- (f) Nurseries and greenhouses only for the propagating and cultivating of plants.
- (g) Accessory buildings, provided that

(a) A private garage not constructed as a part of or attached to the main building must be situated not less than sixty feet from the street in front, fourteen feet from any other street and four feet from any lane towards which any door of such garage opens, provided that where by reason of the physical characteristics of the ground vehicular access can not be obtained on to a site, a private garage may be erected in an excavation in a front yard if no part of the garage extends more than four feet above the surface of the adjoining ground at any point;

(b) A private stable or other building used to shelter domestic animals or birds must be located not less than sixty feet from the street in front nor less than twenty feet from any other street, nor less than four feet from any lane towards which any door of such stable or building opens.

(h) Uses customarily incident to any of the above uses, home occupations, offices of professional persons when situated in the same dwelling and the keeping of not exceeding four boarders, provided that no window display is made nor any sign shown other than one not exceeding two square feet in area and bearing only the name and occupation of the occupant.

(i) A sign board not exceeding twelve square feet in area appertaining to the sale or rent of the real property on which it is situate, provided it complies with the yard, open space and building line requirements herein as if it were a building.

(2) The height of a building must not exceed thirty-five feet nor two and one-half storeys.

(3) A front yard is required of not less than twenty-four feet in depth.

(4) A rear yard is required of not less than twenty-five feet in depth.

(5) A side yard is required of not less than five feet in width on each side of the building, but three feet on each side is sufficient on a site having a width of less than forty feet. On a corner site the side yard requirement shall apply to the street side of the site as well as the other side, provided, however, that in the case of a corner site at the rear of which (whether a lane intervenes or not) is a site fronting on a street intersecting the street on which the corner site fronts, the width of the side yard on the street side of the corner site shall be not less than one-half of the depth of the front yard required on the site in the rear of such corner site, and no accessory building on such corner site shall project beyond the front yard line on the site in the rear.

(6) An open space is required of not less than sixty per cent. of the area of the site.

TWO-FAMILY DISTRICT.

6. In the Two-family District—

(1) The following buildings and uses of buildings and land are permitted:

- (a) Buildings and uses permitted in the One-family District.
- (b) Two-family dwellings.
- (c) Private clubs, fraternities, lodges, excepting those the chief activity of which is a service customarily carried on as a business.
- (d) Hospitals other than for isolation cases and clinics.
- (e) Accessory buildings, provided that—

(a) A private or storage garage not constructed as a part of or attached to the main building must be situated not less than sixty feet from the street in front, fourteen feet from any other street and four feet from any lane towards which any door of such garage opens, provided that where by reason of the physical characteristics of the ground vehicular access can not be obtained onto a site, a private garage may be erected in an excavation in a front yard if no part of the garage extends more than four feet above the surface of the adjoining ground at any point;

(b) A private stable or other building used to shelter domestic animals or birds must be located not less than sixty feet from the street in front nor less than twenty feet from any other street, nor less than four feet from any lane towards which any door of such stable or building opens.

(2) The height of building, rear yard, side yard, front yard and open space requirements for One-family District, shall apply.

MULTIPLE DWELLING DISTRICTS.

7. In Multiple Dwelling Districts—

(1) The following buildings and uses of buildings and land are permitted:

- (a) Buildings and uses permitted in the Two-family District.
- (b) Multiple dwellings.
- (c) Institutions of an educational or philanthropic nature.
- (d) Accessory buildings and uses customarily incident to any of the above uses when located on the same site and not involving the conduct of a business.

(2) The height of a building must not exceed forty-five feet nor three storeys.

(3) A front yard is required of the same depth as in One-family District.

(4) A rear yard is required of not less than twenty-five feet in depth for interior sites nor less than fifteen feet for corner sites, provided, however, that if any part of a building on a corner site is more than sixty-six feet from the side street that part of the building shall have a rear yard of not less than twenty-five feet in depth.

(5) A side yard is required as follows: For a building two and one-half storeys or less in height, there shall be a side yard of not less than five feet in width on each side of the building, or three feet in width on each side on a site having a width of less than forty feet. Each side yard shall be increased in width by one foot for each additional storey above the second, and shall in no case be less than one and one-half inches in width for each foot of building length. The corner site proviso in the side yard requirements for One-family District shall apply.

(6) An open space is required of not less than fifty per cent. of the area of an interior site nor forty per cent. of the area of a corner site.

LOCAL BUSINESS DISTRICTS.

8. In Local Business Districts

(1) All buildings and uses of buildings and land are permitted except the following:

- (a) Buildings and uses excluded from Commercial Districts.
- (b) Funeral undertaking establishment.

- (c) Laundry.
- (d) Public garage.

(2) The height of building and rear yard requirements for One-family District shall apply.

(3) A front yard is required as follows: Where the frontage on one side of the street between two intersecting streets is located partly in a one-family, two-family or multiple dwelling district and partly in a local business district, the front yard requirement for one-family district shall apply to all of such frontage. Where all the frontage on one side of the street between two intersecting streets is located in a local business district or partly in a local business district and partly in a commercial or light industrial district, no front yard shall be required; provided, however, that no building shall be erected or structurally altered so that any portion thereof is between the street and the building line hereinafter prescribed.

(4) No side yard is required except where a local business district adjoins a one-family, two-family or multiple dwelling district without the intervention of a street or lane, in which case and also if provided where not required, it shall be not less than three feet in width, provided always that in the case of a dwelling the side yard requirements for one-family district shall apply. The corner site proviso in the side yard requirements for one-family district shall apply.

(5) An open space is required of not less than fifty per cent. of the area of an interior site, nor forty per cent. of the area of a corner site; provided that in the case of a dwelling the open space requirement for one-family district shall apply.

COMMERCIAL DISTRICTS.

9. In Commercial Districts—

(1) All buildings and uses of buildings and land are permitted except the following:

- (a) Buildings and uses excluded from Light Industrial Districts.
- (b) Bakery employing more than five persons.
- (c) Blacksmith or horseshoeing shop.
- (d) Bottling works.
- (e) Building material storage yard.
- (f) Carting, express, hauling or storage yard.
- (g) Contractor's plant or storage yard.
- (h) Coal, coke or wood yard.
- (i) Cooperage works.
- (j) Dyeing and cleaning works employing more than five persons.
- (k) Ice plant or storage house of more than five tons capacity.
- (l) Laundry.
- (m) Livery stable.
- (n) Lumber yard.
- (o) Machine shop.
- (p) Printing shop employing more than five persons.
- (q) Veterinary hospital or boarding kennel.
- (r) Wholesale milk distributing station.
- (s) Storage warehouse, except one the use of which is incidental to a building or use permitted.
- (t) Any kind of manufacture or treatment other than the manufacture or treatment of products clearly incidental to the conduct of a retail business conducted on the premises.
- (u) Public garage or service station; unless it has no entrance or exit for motor vehicles within two hundred feet of an entrance or exit of a fire hall, public or private school, playground, public library, church, hospital, children's or old people's home, or other similar public or semi-public institution.

(2) The height of a building must not exceed forty-five feet nor three storeys.

(3) No front yard is required, but no building shall be erected or structurally altered so that any portion thereof is between the street and the building line hereinafter prescribed.

(4) A rear yard is required of a minimum depth of ten feet, save in the case of a dwelling when the rear yard requirement for multiple dwelling districts shall apply.

(5) No side yard is required except where a commercial district adjoins a one-family, two-family or multiple dwelling district without the intervention of a street or lane, in which case and also if provided where not required, it shall be not less than three feet in width; provided always that in the case of a dwelling the side yard requirement for one-family district shall apply.

(6) No open space is required other than yards as aforesaid except in the case of a dwelling, in which case the open space requirement for multiple dwelling districts shall apply.

LIGHT INDUSTRIAL DISTRICTS.

10. In Light Industrial Districts

(a) All buildings and uses of buildings and land are permitted except the following:

- 11) Abattoir.
- (2) Acetylene gas manufacture or storage.
- (3) Acid manufacture.
- (4) Ammonia, bleaching powder, or chlorine manufacture.
- (5) Arsenal.
- (6) Asphalt manufacture or refining.
- (7) Bag cleaning.
- (8) Blast furnace.
- (9) Boiler works.
- (10) Brewery.
- (11) Brick, tile or terra cotta manufacture.
- (12) Candle manufacture.
- (13) Celluloid manufacture.
- (14) Coke ovens.
- (15) Crematory.
- (16) Creosote treatment or manufacture.
- (17) Disinfectants manufacture.
- (18) Distillation of bones, coal or wood.
- (19) Distillery.
- (20) Dyestuff manufacture.
- (21) Exterminator and insect poison manufacture.
- (22) Emery cloth and sand paper manufacture.
- (23) Fat rendering.
- (24) Fertilizer manufacture.
- (25) Fireworks or explosive manufacture or storage.
- (26) Fish smoking, curing or canning.
- (27) Forge plant.
- (28) Gas (illuminating or heating) manufacture.
- (29) Glue, size or gelatine manufacture.
- (30) Gunpowder manufacture or storage.
- (31) Incineration or reduction of garbage, dead animals, offal or refuse.
- (32) Iron, steel, brass or copper foundry.
- (33) Lamp black manufacture.
- (34) Mills (planing, saw or shingle).
- (35) Oilcloth or linoleum manufacture.
- (36) Oiled or rubber goods manufacture.
- (37) Ore reduction.
- (38) Paint, oil, shellac, turpentine or varnish manufacture.
- (39) Paper and pulp manufacture.
- (40) Petroleum products, refining or wholesale storage of and explosive derivatives thereof.
- (41) Potash works.
- (42) Pyroxin manufacture.
- (43) Rock crusher.
- (44) Rolling mill.
- (45) Rubber or gutta percha manufacture or treatment.
- (46) Salt works.
- (47) Sauerkraut manufacture.
- (48) Sausage manufacture.
- (49) Shoe or stove polish manufacture.
- (50) Smelters.
- (51) Soap (bar) manufacture.
- (52) Soda and compound manufacture.

(53) Stock yards.

(54) Stone mill or quarry.

(55) Storage or baling of scrap paper, bottles, iron, rags or junk.

(56) Sulphuric, nitric or hydrochloric acid manufacture.

(57) Tallow, grease or lard manufacture or refining from animal fat.

(58) Tanning, curing or storage of raw hides or skins.

(59) Tar distillation or manufacture.

(60) Tar roofing or waterproofing manufacture.

(61) Tobacco (chewing) manufacture or treatment.

(62) Vinegar manufacture.

(63) Wool pulling or scouring.

(64) Yeast plant.

(65) And in general those uses which may be obnoxious or offensive by reason of emission of odour, dust, smoke, gas, noise or vibration.

(b) The height of building and rear yard requirements for Commercial Districts shall apply.

(c) No front yard is required, but no building shall be erected or structurally altered so that any portion thereof is between the street and the building line hereafter prescribed.

(d) No side yard is required except where a light industrial district adjoins a one-family, two-family or multiple dwelling district without the intervention of a street or lane, in which case and also if provided where not required, it shall be not less than three feet in width, provided always that in the case of a dwelling the side yard requirement for one-family district shall apply.

(e) The open space requirement for Commercial Districts shall apply.

HEAVY INDUSTRIAL DISTRICTS.

11. In the Heavy Industrial Districts -

(a) All buildings and uses of buildings and land are permitted except those in conflict with law or with any by-law of the Corporation of Point Grey; provided always that no dwelling, or other building for human habitation shall be erected or used except such as is necessary for the accommodation of caretakers or watchmen or similarly employed persons.

(b) The height of a building must not exceed seventy-five feet nor six storeys.

(c) No front yard is required, but no building shall be erected or structurally altered so that any portion thereof is between the street and the building line hereinafter prescribed.

(d) No side yard is required, but if provided it shall be not less than three feet in width.

SPECIAL CONDITIONS.

12. The foregoing regulations shall be subject to the following:

(1) Height of building.

(a) Private dwellings in the One-family, Two-family and Local Business Districts may be increased in height by not more than ten feet when side yards each of not less than fifteen feet in width are provided. Such dwellings, however, shall not exceed three storeys in height.

(b) A public or semi-public building, hospital, sanitarium or school may be erected in any district where permitted to a height not exceeding seventy-five feet if yards are provided on all sides of the building, each yard having a width of one foot for every foot such building exceeds the height limit of the district in which it is situate, such yards to be in addition to any yards hereinbefore required.

(c) The height of building limitations herein shall not apply to chimneys, towers, penthouses, scenery lofts, sugar refineries, monuments, cupolas, domes, spires and necessary mechanical appurtenances.

(2) FRONT YARD: A building on a through site shall have a front yard on each street in accordance with the front yard requirements of the district in which the site is situated.

3) **SIDE YARD:** The side yard requirement for dwellings shall be waived where dwellings are erected above stores.

BUILDING LINES.

13. (1) Notwithstanding any regulation in this or any other by-law, no building shall be erected, or structurally altered upon a corner site in any district so that any portion of the building is in front of a straight line joining points on the street lines eight feet from their intersection at any level between three feet and ten feet above the plane through the centre lines of the adjoining streets.

(2) Notwithstanding any regulation in this or any other by-law, no building shall be erected or structurally altered in any district upon a site abutting upon any of the following streets so that any portion of such building is at a lesser distance from the street than indicated by the following prescribed building lines:

- (a) Along Cambie Street, Granville Street, Arbutus Street from 16th Avenue to 37th Avenue, 10th Avenue, 41st Avenue, Marine Drive and 70th Avenue, the building line shall be fifty feet from the centre line of the street measured at right angles thereto; provided however, that a building or a portion of a building other than a dwelling and not exceeding one storey nor 16 feet in height may be erected along any portion of said streets which is in a Commercial, Light Industrial or Heavy Industrial District at a lesser distance from the street than said building line, but not, however, at less than 40 feet from the centre of the street, save along the north side of 41st Avenue between West Boulevard and Hobson Street; and the south side of 41st Avenue between West Boulevard and Yew Street, where such a building or portion of a building may be erected to the property line; and
- (b) Along Imperial Street south of 8th Avenue, Alma Street north of 12th Avenue, Crown Street south of 10th Avenue, Dunbar Street from King Edward Avenue to Marine Drive, Blenheim Street, Trafalgar Street north of King Edward Avenue, Larch Street south of 33rd Avenue, Elm Street from 49th Avenue to Marine Drive, Hudson Street south of Park Drive, 5th Avenue from Alma to Highbury Street, 8th Avenue, 9th Avenue, from Alma to Highbury, Wolfe Avenue north of Douglas Avenue east of Wolfe Avenue, 19th Avenue east of Oak Street, Cedar Crescent and Cedar Street north of 19th Avenue, 19th Avenue from Cypress Street to East Boulevard, 20th Avenue from Arbutus Street to Yew Street, 29th Avenue West of Trafalgar Street, 49th Avenue East of Marine Drive, 57th Avenue, 63rd Avenue from Fremlin Street to Heather Street and Park Drive, the building line shall be forty feet from the centre line of the street measured at right angles thereto; and
- (c) Along East Boulevard the building line shall be sixty six feet easterly from the west limit of said street measured at right angles thereto;
- (d) Said building lines shall apply along the entire length of said streets, save as above stated.

EXISTING BUILDINGS AND USES.

14. (1) The provision of this by law shall not apply to any building lawfully under construction at the time of the passing hereof.

(2) The lawful use of premises existing at the time of the passing of this by law, although such use does not conform to the provisions of the by law, may be continued; but if such nonconforming use is discontinued, any future use of those premises shall be in conformity with the provisions of this by-law.

(3) The lawful use of a building existing at the time of the passing of this by-law, although such use does not conform to the provisions of the by-law, may be extended throughout the building, but no structural alterations, except those required by statute or by-law, shall be made therein.

(4) Where no structural alterations are made in a building of a non-conforming use, such use may be changed to a use of a similar or higher classification, according to the provisions of this by-law.

(5) A change of tenants or occupants of any premises or building shall not be deemed to affect the use of the premises or building within the meaning of this section.

ENFORCEMENT.

15. (1) It shall be the duty of the Building Inspector to see that this by-law is enforced.

(2) The Building Inspector and his assistants are hereby authorized to enter at all reasonable times upon any property subject to the regulations herein, in order to ascertain whether such regulations are obeyed. No person shall prevent or obstruct or seek to prevent or obstruct the entrance by the Building Inspector or any of his assistants as aforesaid.

(3) Where any building or part of a building or erection has been constructed or placed in contravention of this by-law, the Building Inspector after giving reasonable notice to the owner requiring him to pull down or remove the same and mentioning the provisions of the by-law contravened, and after giving the owner an opportunity of being heard by the Council in regard thereto, may with the approval of the Council pull down or remove the building or part of the building or erection at the expense of the owner, and payment of such expense may be enforced against the said owner by the Corporation in an action in any Court of competent jurisdiction; and the said expense shall form a lien and charge upon the real property whereon or wherefrom the said building or part, or erection, has been pulled down or removed; and if payment thereof is not enforced as aforesaid the said expense shall be collected with interest at the like rate and in the same manner and with the like remedies as ordinary taxes upon lands or improvements are collected under the Municipal Act.

(4) This by-law may be enforced and the contravention of any regulation herein restrained by the Supreme Court upon action brought by the Corporation whether or not any penalty has been imposed for such contravention, and it shall be unnecessary for the Crown or the Attorney-General or any other officer of the Crown to be a party to such action.

APPEALS.

16. (1) An appeal to the Board of Appeal shall lie in the following cases:

- (a) By any person who is dissatisfied with the decision of the Building Inspector;
- (b) By any person desiring to obtain the benefit of any exception contained herein;
 - (1) By any person claiming that, owing to special conditions, the literal enforcement of this by-law would result in unnecessary hardship;
 - (2) By any person or by any officer or department of the Municipality desiring to erect, construct, locate, alter, reconstruct, repair, maintain, or carry on a hospital, isolation hospital, cemetery, aeroplane landing field, community centre, riding or driving school, an institution of an educational, philanthropic or charitable nature, or a public utility in a district from which it is prohibited by this by-law;
 - (3) By any person desiring to erect, construct, locate, alter, reconstruct, repair, maintain, or carry on a church without the hereinbefore required rear yard.
- (c) By the Building Inspector when, owing to the irregular shape of a site, he is unable, or it would be unreasonable, to enforce the yard requirements herein.

(2) Any person making an appeal shall file with the Municipal Clerk a notice of appeal describing the property affected and stating the grounds of the appeal and giving the appellant's address. Any notice to be given under this by-law

or in respect of the appeal shall be deemed to be well and sufficiently given to the appellant if posted by registered post addressed to him at said address.

(3) The Municipal Clerk shall call a meeting of the Board to hear the appeal within thirty days, but not less than five days after the filing of the notice of appeal, and shall give notice to the Building Inspector, the appellant and the Secretary of the Town Planning Commission of the time and place of such meeting; provided, however, that with the consent of the Building Inspector and the appellant the Board may hear the appeal within said five days.

(4) The hearing by the Board shall be open to the public, save when the Board deems it in the public interest that the public be excluded. The Board shall cause a record of its proceedings to be kept.

(5) The Board may receive any evidence which it thinks proper to admit whether on oath or not and whether written or oral, and may take a view of the land or premises in question. Any person whose property is affected by any such appeal shall have a right to be heard and to adduce evidence.

(6) In considering appeals the Board shall adhere to the spirit of this by-law, but may make such relaxations as special cases call for, and endeavour to see that substantial justice is done and that the interests of any individual are not unduly or unnecessarily sacrificed for the benefit of the community.

(7) The Board or members or member present, or in their absence the Municipal Clerk, may adjourn the hearing from time to time.

(8) The decision in writing of all or of two members of the Board shall constitute the decision of the Board. Such decision shall be filed with the Municipal Clerk, who shall give notice thereof to the appellant and the Building Inspector.

PENALTY.

17. (1) Every person who violates any provision herein, or who suffers or permits any act or thing to be done in contravention or violation of any provision hereof, or who neglects or fails to do any act or thing herein required to be done shall be guilty of an infraction hereof and liable to the penalties hereby imposed.

(2) Any Justice of the Peace, Police Magistrate or other Court before whom a prosecution is had for an offence against this by-law may convict the offender on the oath or affirmation of any credible witness and shall impose on the offender a penalty of an amount not exceeding one hundred dollars, and also the costs of the prosecution and shall by his conviction after adjudging payment of such penalty and costs, order and adjudge that in default of such payment forthwith, the same be levied by distress and sale of the goods and chattels of the offender, and if sufficient distress cannot be found, that the offender be imprisoned in the common gaol for any period not exceeding one month and with or without hard labour, unless such penalty and costs and also costs of the committal and conveyance to gaol are sooner paid.

REPEAL.

18. Town Planning By-law No. 1032 of 1926 is hereby repealed.

By-law No. 727, 1927, was finally passed on October 24, 1927, and By-law No. 5, 1928, was finally passed on January 3, 1928, on which dates they were signed by

J. A. PATON,
Reeve.

HENRY FLOYD,
Clerk.

and sealed with the Corporate Seal.

APPENDIX V.

TRANSIT REPORT ON BURRARD STREET BRIDGE

3rd December, 1928.

His Worship the Mayor and Council,
City of Vancouver,
British Columbia.

Dear Sirs:

On behalf of the Commission I wish to advise you of the following resolution which was passed by the Commission in connection with the proposed Burrard Street Bridge:

"Inasmuch as a study of the data compiled by the Commission's Consultants in connection with their investigations of the transit problems of the districts that will be served by the Burrard Bridge and interviews with the Transportation Companies with reference to the accommodation necessary for mass transportation—details of which are set out in the accompanying memorandum—indicate the necessity of other provision for street car traffic than that proposed.

"And inasmuch as the future development to be anticipated on both sides of False Creek west of Burrard Street produced, make it desirable to have a pleasing structure that will be in keeping with this development, which desideratum is best provided by a single-deck bridge.

"Therefore be it resolved that the Commission respectfully requests the City Council to instruct its delegates to Ottawa to so negotiate with the Government that the way may be left open for a further consideration of any desirable alternative which may result from such studies and which will be satisfactory to the local Port Authorities from the standpoint of navigation, with the hope that a way may be found for the construction of a single-deck bridge in approximately the location now proposed for the double-deck structure."

The Memorandum referred to in the Resolution is attached hereto

I remain,

Yours faithfully,

(Signed) J. ALEXANDER WALKER,
Secretary.

MEMORANDUM TO CITY COUNCIL REFERRED TO IN
A RESOLUTION OF THE VANCOUVER TOWN PLAN-
NING COMMISSION IN REGARD TO THE
PROPOSED BURRARD STREET BRIDGE.

30th November, 1928.

The Town Planning Commission has had the opportunity of inspecting the alternative plans which have been prepared and begs to submit thereon the following Memorandum.

The Commission has in its possession the following data and advice from its Consultants upon the subject under consideration:

1. A population of 250,000 is anticipated in the territory which will be served by this bridge at a period well within the life of the bridge.
2. In order to serve the population south of False Creek four double-track lines of street cars will be required west of Cambie Street.
3. Our Consultants state that Burrard Bridge must be designed to carry street cars, as no other scheme appears feasible for accommodating the necessary tracks.
4. The Kitsilano Railway Bridge accommodates the Kitsilano street cars and also provides a connection for freight between the railway yards on the north side of the Creek and the yards and Lulu Island Railway on the south side.

Our Consultants recommend a scheme for substituting for this connection a connection further up the Creek, but the Commission recognizes that for present purposes, railway accommodation across the Creek must be provided.

5. The Commission believes and has the confirmation of the Port Authorities that there will be no objection to the erection of a single-deck bridge on the location proposed for the double-deck bridge, without the removal of the railway bridge, provided that it be of sufficient height and completely spans the navigable channel.
6. The Commission understands from officials of the British Columbia Electric Railway that their studies of the preliminary plans have not been sufficient to enable them to arrive at a mature opinion as to the sufficiency of the facilities provided them for crossing False Creek.
7. The Commission is advised that it will be extremely difficult to prepare plans for a double-deck structure which would pass any reasonable aesthetic test unless at a greatly disproportionate cost. An examination of the plan before them shows that although ingenuity has been exercised in order to disguise objectionable features scarcely moderate success has been attained. Little therefore is gained aesthetically.
8. The Commission has not all the full cost data or an opportunity to analyse the same, but understands that there is a net difference in cost of over \$700,000 between the two structures. This, therefore, is the price of providing railway accommodation.
9. A suggestion has been made that it might be possible to reconstruct the present Kitsilano Bridge in a location approximately in continuation of Hornby Street, with proper connections on both the north and south sides, which would permit of the construction of the single-deck bridge with a span clearing the full width of the navigable channel.
10. A further suggestion has been made that the Kitsilano Bridge might be continued with possible slight modifications for a certain period, until it becomes necessary to reconstruct the Granville Street Bridge, and that in connection such reconstruction railway accommodation might be provided.

The Commission believes that it is correct in assuming that a double-deck structure was adopted for the reason that it was assumed that the present Kitsilano Bridge had to be abolished, and that it was impossible to otherwise provide the necessary accommodation for transportation companies.

The Commission recognizes the desirability on aesthetic grounds of removing the present bridge, but strongly urges that it is better, if necessary, to retain a temporary structure which offends the eye than to erect a permanent structure which gives similar offence.

The conclusion to which the Commission has arrived, and for which justification is to be found in the foregoing data, is that all available possibilities of securing a single-deck structure should be exhausted before a final decision is made. The Commission is firmly of the opinion that single-deck structure is more desirable both for financial and aesthetical reasons and believes that further investigation of all possible alternatives will reveal a plan which may enable a single deck structure to be built which will comply with aesthetic requirements and cost less than that involved in the present proposal for a double-deck bridge. The question of cost is important and cannot be dealt with until after a thorough investigation and until the cost of alternative structures has been calculated, but the margin between the cost of a single-deck and a double-deck bridge promises an appreciable saving. And finally, adequate provision must be made for street cars.

APPENDIX VI.
RAILWAY AND HARBOUR REPORT

Chairman and Members of the
Town Planning Commission,
Vancouver, B.C.

Gentlemen:

Your Transportation and Harbour Committee has examined the Bartholomew Report submitted by their Mr. Hudson on Railway and Transportation, and also on Harbour matters. We have held a number of meetings and have made certain examinations on the ground and beg to submit herewith for your consideration an outline of our recommendations of the various matters in question.

I. RAILWAY AND TRANSPORTATION REPORT:

- (a) **GENERAL IMPORTANCE.** Your Committee concurs with the importance attached to Railway Transportation within the Greater Vancouver Terminal in view of the growing traffic through this port and the vast organization required to handle railway transportation problems adequately when the port shall have reached its ultimate development. We also concur in the great need for co-operation by the railway lines now carrying out railway terminal movements, if, to use Mr. Hudson's expression, "a maximum of service is to be supplied at a minimum cost."
- (b) **PRESENT FACILITIES.** We concur with Mr. Hudson that railway facilities are generally, at the present time, with the exception of interchange tracks, adequate to handle the present traffic provided efficient use is made of the existing facilities of rolling stock and motive power. The new yard of the Vancouver Harbour Commissioners at the head of False Creek has considerably improved the situation.
- (c) **DEFECTS.** Certain defects in the present railway situation are referred to by Mr. Hudson. These defects are, briefly, as follows:
1. Too heavy an amount of switching operation is carried on on the north shore of False Creek.
 2. The Carrall Street line of the Canadian Pacific Railway is a severe handicap to the city.
 3. Largely increased interchange facilities are required at the east end of False Creek.
 4. The British Columbia Electric Railway Company is too much restricted in its scope of operations.
 5. The passenger and freight facilities of the Great Northern and Canadian National Railways at False Creek are over expended and should be consolidated.
 6. Industries are at a disadvantage by reason of unsympathetic switching arrangement and excessive inter-terminal switching charges.
 7. Competitive railway business is in an unhealthy state.
 8. Improvement of general interchange methods for freight is desirable.
 9. A number of railway grade crossings should receive early attention.
 10. False Creek industrial development is more or less an eye-sore and a menace to health. If possible, some systematic plan of improvement should be devised.

A number of minor defects are noted by Mr. Hudson, but we believe that the foregoing constitute the principal items deserving of attention and demanding improvement. Your Committee concur with Mr. Hudson's view, that terminal switching could be greatly improved both as to service and cost to the industry, and also in cost to the railways through an arrangement whereby practically all switching within the terminal be carried on by one terminal switching agency. We strongly urge that unless an agreement can be reached between the interested parties to

make use of one of the existing switching operations, immediate steps should be taken towards the formation of a terminal company to handle all terminal switching of Greater Vancouver.

Mr. Hudson urges the construction of the Glen Drive Transfer and Interchange Yard. This improvement has been put into effect in part by the construction this year of the Vancouver Harbour Commissioners' False Creek Yard, having a capacity of 425 cars.

- (d) **CANADIAN PACIFIC RAILWAY PASSENGER STATION.** Mr. Hudson makes an ideal recommendation, that the Canadian Pacific Railway passenger terminal be combined with those of the other railways now operating into the head of False Creek. We are of the opinion, generally concurred in by Mr. Hudson, that this is a somewhat radical suggestion, uneconomical in view of expenditures already made, and, lastly, that the Canadian Pacific Railway Company enjoys a very great advantage because of the proximity of its passenger terminal to its deep-sea and coastwise piers.
- (f) **NORTH SHORE RAILWAY YARDS.** Mr. Hudson recommends that railway yard space shall be provided on the North Shore, having a total capacity of approximately 2,000 cars. Your Committee believes, in view of the great possibilities of the North Shore of the central harbour, that space should be reserved for future railway accommodation to at least twice the amount stipulated. We are of the opinion that in future at least a very considerable portion of the business to be transacted in the central harbour will be handled on the North Shore.
- (g) **BRITISH COLUMBIA ELECTRIC RAILWAY.** Your Committee concurs with Mr. Hudson that the scope of switching operations now carried on by the British Columbia Electric Railway might be greatly increased in the interests of both the industries and the railway companies. The need for action along this line would, of course, largely disappear in the event of a common terminal railway switching agency being selected.
- (h) **GRADE CROSSING ELIMINATIONS.** The Carrall Street line of the Canadian Pacific Railway Company has already been referred to. This is undoubtedly the most urgent case.

A general plan of improvement for access to the waterfront from the city streets is more and more apparent as time goes on, in view of the heavy movements of railway traffic along the Canadian Pacific Railway Company's main line and the Harbour Commissioners' terminal switching railway.

As set out by Mr. Hudson, the answer to a large part of this problem is to be found in the treatment accorded Burrard and Granville Street ends by the Canadian Pacific Railway Company. We believe that an elevated waterfront roadway, being a continuation of that now in effect by the Canadian Pacific Railway Company, should eventually extend eastward as far as the Sugar Refinery, connecting up with grade separation bridge, which will ultimately be constructed at the Powell Street Crossing of the Great Northern Railway, Burrard Inlet spur. This elevated waterfront roadway should be connected with the city streets at a number of points, such as Main, Dunlevy and Heatley. Easterly from the Sugar Refinery, we believe that a low level waterfront roadway should be constructed north of Canadian Pacific Railway Company and Harbour Commissioners' tracks, extending easterly to connect with the waterfront roadway reserve now set aside by the Harbour Commissioners from the foot of Trinity Street to the Second Narrows and beyond. Connection to the waterfront east of the Sugar Refinery would have to be made by a series of subways below the existing and future railway tracks.

The Great Northern crossing at Powell Street is objectionable and expensive because of delays. This defect can be remedied by grade separation with Powell Street, already referred to.

2. VANCOUVER HARBOUR REPORT:

(a) **GENERAL.** The industrial and business life of Vancouver is so intimately tied up with her harbour that it is very difficult to view the harbour activities as being in any way divorced from the development of the city areas proper. Accordingly, while the control and government of harbour operations lie in the Dominion Government as represented by the Vancouver Harbour Commissioners, there should be the closest co-operation between civic and harbour authorities in order that the greatest benefit may result therefrom.

Furthermore, in considering Vancouver Harbour, it should be coupled in its thought for development with the North Arm of the Fraser River, and the main Fraser River, to the head of deep-sea navigation. This means that a much greater area and more waterfrontage is available for industrial development, which permits a better classification of a ground to be occupied by various types of waterfront industry. As, for instance, as set out in Mr. Hudson's report, we are all agreed that the lumber and sawmill industry should, at as early a date as economy will permit, remove itself from Burrard Inlet and False Creek and be established at Port Moody and the Fraser River.

(b) **PANAMA CANAL.** Your Committee concurs with Mr. Hudson in the importance he attaches to the Panama Canal and the traffic which has resulted to Vancouver since the beginning of its operation. It has been voiced from time to time that the Panama Canal is nearing its limit of operating capacity. The facts of the case are that in 1927 the Canal operated to 42% of its capacity. However, inasmuch as this waterway is of vital interest to the United States, we believe there is no occasion for worry, since, undoubtedly, these facilities will be increased or added to in future in time to care for the increased trade.

(c) **PORT GOVERNMENT AND CONTROL.** On page 22 of the Bartholomew Report, Mr. Hudson writes as follows:

"The essential first step is to secure absolute control of the waterfrontage through the Harbour Commission, and sufficient of the background to accommodate the railroad tracks and accessory facilities that are necessary. The land should, if possible, be purchased outright and then developed industrially with limited leaseholds, until it is gradually needed for docks and piers."

Experience of other ports both in America and Europe has shown that the ideal port operation is one where the control of the waterfront lands rests entirely with the port authority, and inasmuch as larger ports are of national importance, we believe in this case it is desirable that the Vancouver Harbour Commissioners own or acquire a sufficient proportion of waterfront lands within the Harbour, that the public interest may be adequately safeguarded.

True in the case of the North Shore, this is more or less virgin territory so far as Vancouver Harbour Commissioners are concerned, and your Committee agrees with Mr. Hudson that the acquisition of a large section of waterfrontage recently by the Vancouver Harbour Commissioners has been a step in the right direction. The most substantial step which the Harbour Commissioners have taken to date in connection with the North Shore lies in the control of the railway situation, all frontage to be served by the Harbour Commissioners' Terminal Railway.

(d) **SOUTH SHORE DEVELOPMENT.** With reference to the South Shore of the Central Harbour of Burrard Inlet, Mr. Hudson states:

"In general, then, it is recommended that the South Shore be reserved for active marine commercial wharfage, including fish docks and general coastwise and high-class deep-sea trade, and the North Shore for lower grade, less active bulk cargo, shipyards, grain elevators, and the like, including industries that may or may not require wharfage."

Your Committee concurs in general with the sentiments expressed in this reference, but would point out that these conditions will alter with the building up of the North Shore.

In reference to the present facilities, Mr. Hudson suggests that they are only used to part capacity. It must be borne in mind, however, that these facilities must be sufficient to carry peak loads, and that, furthermore, if the port is to succeed, these waterfront facilities must always be somewhat in advance of their requirement. Your Committee believes this policy has been well appreciated by the port interests of recent years and that a great deal of benefit has thereby devolved on the port.

(e) **SECOND NARROWS SITUATION.** Mr. Hudson points out the importance of a Second Narrows link to the North Shore. He suggests that in a very short time a new bridge of much greater capacity will have to be built. Your Committee has given this matter considerable study and is of the opinion that at an early date the present structure should give way to a dam and locks as being a final solution for the joint accommodation of marine and land traffic in this locality.

(f) **NORTH SHORE DEVELOPMENT.** The progress made in waterfront development within the past twelve months, since the completion of the Vancouver Harbour Commissioners' Terminal Railway, is most gratifying. The North Shore has, from actual survey, considerably greater possibilities for waterfront and industrial development than has the South Shore of Central Harbour. This is mainly due to the large tidal flat areas which have been formed at the mouths of the various streams discharging into the Inlet on the north side. These tidal flat areas provide not only industrial areas which can be cheaply and readily reclaimed, but also ample trackage for further purposes. In the latter respect, the North Shore has a decided advantage over the more confined South Shore waterfront. Your Committee is of the opinion that considerable care should be given to the type of industry which will be located on the North Shore of the Central Harbour inasmuch as the total available waterfrontage of the Central Harbour is distinctly limited and plans for the future should provide that deep-sea terminal sites are available for an ultimate development which will take care of all the general merchandising for the areas of Greater Vancouver which lie tributary to the Central Harbour. Extension in the control of North Shore waterfrontage by the Vancouver Harbour Commissioners is desirable inasmuch as this permits the planning of a comprehensive scheme of development.

(g) **FALSE CREEK PROBLEM.** We agree with Mr. Hudson that False Creek is badly in need of a general housecleaning. The sewage conditions, as pointed out by Mr. Hudson, are both objectionable and serious and demand attention at the earliest possible moment. There is reason to believe that the sawmill industry will, in the near future, give way to a better type of industry, requiring smaller areas for development and operation. It will not be possible to accelerate this change to any great extent by any action on the part of the port authorities or the city, but we believe that the economies of this situation will force out the sawmills and provision for the future in the way of dredging, establishment of headlines, railway trackage, etc., should be studied accordingly. We believe that, except for the bridge opening, a channel having a minimum width of 600 feet should be provided.

(h) **ENGLISH BAY SITUATION.** Your Committee fully concurs in the recommendation that no industry of any kind should be permitted to extend west of the site of the proposed Burrard Street Bridge, either towards Stanley Park or along the south shore of English Bay. We believe that the waterfront should be held for recreation purposes, free from all industrial development from Point Atkinson on the North Shore to the First Narrows and from that point via Stanley Park, Second and First Beaches, Kitsilano Beach and Spanish Banks around to the mouth of the North Arm of the Fraser River.

THE COAL HARBOUR PROBLEM. Your Committee recognizes the difficulty of any arbitrary enactment which would prevent the industrial use of the south shore of Coal Harbour up to the proximity of Stanley Park. However, we believe that with the growth of the city and the extended use of Stanley Park, boathouses and boat-landings will probably occupy the area between the causeway and Denman Street. East of this point it is probable that the small boat building concerns will carry on for a great many years, due to the convenience of location. Any idea of dredging and making available this area for deep-sea piers should be discouraged for the reason that it would not be possible to provide adequate trackage to serve such terminals, nor is there room for manoeuvring deep-sea ships.

(j) **FIRST NARROWS DREDGING.** Your Committee believes that the programme of dredging at the First Narrows should be continued until there is a minimum of at least 1,200 feet clear width at Prospect Point. This might reasonably be increased to 1,400 feet, but in addition, Calamity Point and the spit at the mouth of the Capilano River, lying outside the narrows, should both be removed, since they now force outgoing traffic well toward the middle of the stream.

(k) **FISHING TERMINAL.** Mr. Hudson states as follows:

"Considering the importance of the fishing industry and its volume, the present waterfront facilities for handling the business are pitifully inadequate."

Your Committee concurs with the opinions expressed and recommended that the necessity so apparent of providing accommodation for one of the British Columbia basic industries should be strongly urged before the authorities. Tug-boat needs should be fully considered at the same time.

(l) **BURRARD STREET BRIDGE.** Reference is made to the Burrard Street Bridge because of the fact that, coupled with the existing Kitsilano Bridge, the question of navigation is an important one. No one who has studied the question will gainsay the immediate need for the construction of the Burrard Street Bridge. Other bridges will follow in the future, but the logical step of improvement in this direction undoubtedly lies in first constructing a bridge connecting the foot of Burrard Street and roadways leading into the Kitsilano Indian Reserve. The Kitsilano railway bridge, with the draw span as it now exists, is a menace to navigation, and in constructing the new Burrard Street Bridge, no stone should be left unturned, in the opinion of your Committee, to obtain a remedy to the present unsatisfactory situation.

(Signed) W. G. SWAN,
B. G. HANSULD,
W. A. CLARK,

Committee.

APPENDIX VII.
REPORT ON THE
PROPOSED SPANISH BANKS HARBOUR PROJECT
TO THE
POINT GREY TOWN PLANNING COMMISSION

12th June, 1928.

DESCRIPTION.

The Proposed Spanish Banks Harbour Development has for its purpose the reclamation of some seven hundred (700) acres of land along Spanish Banks of English Bay from a point about even with Alma Road to and somewhat beyond Point Grey, the entire distance being about five (5) miles. (See Plan No. 82, date, 28th February, 1912, scale, one inch equals 12 chains, Vancouver Terminals Company).

The project has for its purpose the creation of dockage for general shipping and land for industries. The harbour would be artificially created by dredging a deep inner channel and basin, the material from which would then be thrown seaward and shoreward to form a breakwater and land for industries and docks. According to the sketch plan submitted, there would be created about one hundred and fifty (150) acres of dockage and wharfage and five hundred and sixty (560) acres of land available for industrial purposes.

An essential part of the project is the construction of terminal railroad tracks, apparently some twenty (20) or thirty (30) miles in length and involving about four (4) miles of tunnel construction. According to the plan the railroad tracks thus provided terminate at the Government Bridge at New Westminster. One loop of the terminal track extends northerly across the Point Grey district from a point about one mile west of Marpole and then north-westerly to the easterly end of the harbour development along English Bay. The other loop of the track follows the North Arm of the Fraser River around Point Grey, thus completely encircling this territory with railroad tracks.

COST OF PROJECT.

No definite figures have been made available as to the cost of such a project in its entirety, but it has been indicated that the total cost will approximate \$75,000,000.00.

ADVANTAGES CLAIMED FOR PROPOSED PROJECT.

The project apparently was conceived through a desire to create additional harbour and industrial facilities for the Vancouver district. Some of the advantages claimed for the Spanish Banks Harbour are as follows:

1. ITS EASY ACCESSIBILITY BY LAND AND WATER.

There is no question but that the proposed harbour site can be made accessible by land through the construction of adequate highways and railroads. It is, of course, about as far from the present land routes of travel as it could well be.

It is conceivable that a harbour, constructed in this location, could be made easily accessible by water, but in its present form as proposed, it is hardly as easy of entrance as the present Burrard Inlet. It will be noted from the drawing accompanying the promoters' description of the project that vessels entering and leaving the inner harbour would be compelled to make a complete turn before standing clear for entrance to the harbour or to the straits. The entrance channel as drawn is only about six hundred (600) feet wide, which is considerably less than one-half of the width that can be obtained at the First Narrows. There will doubtless be less current to contend with in entering the inner harbour, but even this advantage would not be obtained unless there were adequate opening at the westerly end of the harbour to equalize the tidal flow.

2. IT IS OF LARGE AREA.

In the Harbour Report prepared for the Town Planning Commission of Vancouver attention is called to the large

amount of area still available for industries and harbour purposes, both on the North and South Shores of Burrard Inlet (See Harbour Report, Page 19). On the North Shore alone there is approximately one thousand (1000) acres yet to be utilized, and on the South Shore approximately two hundred (200) acres of land.

The rehabilitation of the False Creek district will provide an addition of about two hundred (200) acres of industrial land. In this connection it is only a question of time when the present lumber industries, both in the False Creek district and the Burrard Inlet will be compelled to move to a new location on account of increasing land values and difficulty of maintaining continuous operations. This will release a further large area for the more compact form of industrial development that may be expected. It is entirely probable that sufficient industrial area and waterfrontage is available on Burrard Inlet and tributary waters and along False Creek to provide for the needs of Vancouver proper during the next fifty (50) years. So far as Greater Vancouver is concerned, there are tremendous areas of flat land along the Fraser River which can, at comparatively small expense, be made suitable for both industrial and harbour development. Lulu Island alone contains some twenty-five thousand (25,000) acres, most of which can be used for industries of a certain description, requiring large tracts and not too heavy foundations. There is no indication at the present time that even this area will require intensive development for either industries or dockage in the immediate future. From this it appears illogical to create an additional comparatively small acreage at so tremendous a cost.

3. SHIPPING CAN GET TO AND FROM IT AT ANY STAGE OF TIDE OR IN ANY CLASS OF WEATHER, FOGGY OR CLEAR.

Attention has been previously directed to the turn-around movement required for all ships entering and leaving the harbour, if arranged according to the proposed plan.

4. IT WILL BE CLOSER TO AND MORE INTIMATELY CONNECTED WITH THE MAIN CENTRE OF FUTURE POPULATION THAN IS POSSIBLE AT ANY OTHER WATERFRONT.

Any advantage that may be claimed for closer association with population centres and waterfront and industrial areas clearly lies with those lands in the vicinity of Burrard Inlet and the False Creek district and around New Westminster. This is obvious from a study of the trend of population and the topography of the city.

5. THE COST OF CONSTRUCTION WILL BE SMALL.

As there are no estimates available at the present time, it is difficult to comment upon this statement. However, it should be apparent that any project costing \$75,000,000.00 is of major importance. A casual observation of the district and the plans submitted indicates that the construction cost will be extremely large, involving, as it does, a very great quantity of fill, several miles of bulkheading and extensive railroad and highway construction, together with all the appurtenances such as are now in use in Burrard Inlet, only on a much greater scale.

6. ADMINISTRATION COSTS WILL BE LIGHT.

No figures are available to show what the administration cost would be, but it seems apparent that the cost of maintaining the channel alone would be comparatively high, as it is reasonable to suppose that the deposition of materials which formed Spanish Bank will continue, necessitating more or less constant dredging to keep the artificial channels open.

7. THE EFFICIENCY OF THE COMPLETE UNDERTAKING WILL BE HIGH BECAUSE IT WILL BE THE MOST MODERN WORK OF ITS KIND IN EXISTENCE.

This is a very broad statement of a claim impossible to verify or substantiate by detailed figures and estimates. It may be said, however, that the operation of a harbour and industrial district in such a locality will be greatly handicapped by the great distance, ten (10) to twenty (20) miles, from the main classification yards of the railroads. This necessitates an unusually long terminal haul, which is necessarily costly. The proposed plan compares most unfavourably with the present method of handling shipping by rail to and from the industrial and harbour districts about Burrard Inlet, the False Creek area and New Westminster district. The terminal operations here are compact, flexible and with some improvements can be made almost ideal.

8. EFFECT UPON POINT GREY RESIDENTIAL DISTRICT.

It is argued that the terminal improvements will be at the water level, therefore will not unfavourably affect the residential section in this locality, which is situated at a considerable height and at some distance away from the waterfront. It is apparent that the operation of industries on an extensive scale would be highly injurious to any district, business, residential or educational, when in such close proximity. Winds off the straits would carry the smoke, noise and odours from such a district directly over the inland and most likely create a pall of smoke over the entire Bay, thereby increasing the formation of fog. Railroad operations alone would be sufficient to affect adversely the property in the vicinity. The pollution of all bathing beaches bordering English Bay and the absolute destruction of some of them would be inevitable. Greater Vancouver would lose some of its most attractive features, notably Marine Drive and the recreational facilities in and around English Bay.

CONCLUSIONS.

In order to make such a scheme effective an enormous initial expenditure would be necessary for the construction of breakwaters and provision of railroad and highway connections, without which even the most primitive sort of harbour work would be futile and wasted. The total investment in such a project would be stupendous indeed, probably as much as \$75,000,000.00. For this sum, if the plan submitted is correct, six hundred and eighty (680) acres of land would be created (one hundred and fifty (150) acres of dockage and wharf and some five hundred and thirty (530) acres for presumably industrial development) at a cost per acre of about \$111,000.00. This is many times more than the cost of equivalent or better placed land on Burrard Inlet. Obviously, as long as land is available elsewhere at less cost there would be little demand for that which would be reclaimed through this proposed Spanish Banks project.

While no one can forecast the ultimate requirements of Vancouver district or the province, it would be most unwise

to spend money in anticipation of needs much beyond that which one can possibly foresee. For example, it has been demonstrated that much of the total available waterfrontage of Burrard Inlet remains to be developed, and that it may require fifty (50) years to utilize fully this area alone. In addition, there are other locations at hand only slightly less favoured than the Burrard Inlet lands, which can be made available at a comparatively small cost.

Until Burrard Inlet is fully utilized and other frontage now possessing good accessibility has been developed, it does not seem businesslike to go to the extraordinary expense of literally creating new land, particularly in a location possessing so few natural advantages. An equivalent sum spent on Burrard Inlet, Fraser River and other waters now in actual use for navigation and industrial purposes, would reflect much greater benefit than if dissipated upon a project of even doubtful ultimate necessity.

A most important consideration is the practical certainty of badly handicapping, if not altogether preventing, further improvement of our present harbour facilities by the diversion of so huge a sum of money to a project altogether beyond the times.

Attention is called to the industrial housing problem that would be created should such a project as this actually materialize. It is an invariable rule that dwellings, tenements, lodging houses of an appropriate type will group themselves in close proximity to major industries, for it is necessary that the mass of workers be within easy walking or riding distance of the place of employment. This applies especially to those trades having to do with shipping and waterfront activities generally.

There is at present no available residence district within five (5) miles of Spanish Banks which could be economically devoted to the type of housing required. The natural tendency would be a sporadic development of small groups of houses, necessarily out of harmony with the prevailing class of homes for which the Point Grey district is justly famous. Ordinarily, for enterprises of such magnitude, the housing problem receives first consideration.

It may be anticipated that much additional heavy vehicular traffic would be imposed upon the thoroughfares of Point Grey and contiguous areas. Such traffic is of a class for which the streets are not designed, nor to which the residents are accustomed. The increase of vehicular movement in residential districts cannot improve it, and its effects will assuredly be destructive of property values.

The Spanish Banks Harbour Development project is apparently not founded upon a sound economic basis, and, as any attempt to carry it out would destroy about the last remaining beach accessible to the people, besides depreciating in value one of the finest residential and university sites on the coast, it is unhesitatingly recommended that this project be not encouraged as opposed to public interest.

(Signed) WM. D. HUDSON.

APPENDIX VIII.

CIVIC ART

THE APPEARANCE OF THE CITY

Commission's Interim Report on Recreation and English Bay Foreshore.

His Worship the Mayor and Council,
City of Vancouver,
British Columbia.

Interim Report on Recreation and Parks.

In the preparation of a comprehensive Town Plan this Commission has been following the programme set out in the contract between yourselves and our consultants, Messrs. Harland Bartholomew and Associates, executed in August, 1926, and the subject of Recreation and Parks appears at a late date in this programme. The special Committee of the Commission, however, has been engaged for some time now in making studies of the subject, and while no final report is yet ready the studies have reached the stage when certain conclusions have been arrived at and this Committee has reported to the Commission upon one matter which is of sufficient importance to receive immediate attention and which will be dealt with in this Interim Report.

At an early stage of our studies it was urged by Mr. Bartholomew that the foreshore on the north shore of English Bay from Stanley Park to False Creek and on the south shore of English Bay from False Creek to Point Grey should be acquired by the city for recreational purposes. You will find annexed a sketch plan showing the area in question and its present occupation. The studies of the proper Committee have now reached the stage when they are in a position to report upon the appropriate use of the area in question and you will also find appended hereto a sketch which indicates what is considered an appropriate development for the whole area. The Committee has unanimously adopted their report, the substance of which will be embodied in this Interim Report.

An examination of the sketches appended hereto shows that the city is in occupation and has title to most of the upland and to the foreshore south of Beach Avenue between Stanley Park and Bidwell Street. The only exception to the ownership of the lands is formed by the private occupation which exists between the park and the centre of the block between Chilco and Gilford Streets, as shown on the attached sketch.

From Bidwell Street to Burrard Street all the upland is privately owned and is zoned in the by-law which has been submitted to you to correspond with the district in which it is situated, so that from Bidwell Street to Thurlow Street the lands are zoned as six-storey multiple dwelling, and from Thurlow Street to Burrard Street are zoned in accordance with occupation as light industrial.

The foreshore in front of these lands still remains in the Crown, with the following exceptions:

- (a) The south-east corner of Nicola and Beach Avenue, known as the Beach Club property.
- (b) The south-west corner of Beach Avenue and Bute Street, occupied by Armstrong, Morrison & Company Limited.
- (c) The south-east corner of Beach Avenue and Bute Street, known as the Aivazoff property.
- (d) The south-west corner of Beach Avenue and Thurlow Street, the status of which is not certain, but it is supposed to be privately owned.
- (e) Considerable industrial occupation on the foreshore between Burrard Street and Thurlow Street.

On the south shore of English Bay the Kitsilano Indian Reserve occupies the whole of the south bank of the entrance to False Creek from Granville Street to a point opposite Broughton Street produced, and that the foreshore of the easterly part of the reserve is in private occupation under lease from the Indian Department up almost to the point where it is intersected by

the Kitsilano Bridge on the English Bay branch of the C.P.R. From that point to the north-westerly corner of the Reserve the foreshore is occupied by squatters and scow houses.

From the north-westerly corner of the Kitsilano Indian Reserve the uplands for two blocks have recently, through the generous action of Mr. Harvey Hadden, been donated to the city for park purposes. The remainder of the uplands from this point to Kitsilano Beach comprise what is known as the C.P.R. hotel site, being the area which is leased from the C.P.R. with an option to purchase, and which is now occupied as part of the Kitsilano Park. The foreshore from the Indian Reserve to Kitsilano Beach is still unencumbered in the provincial government.

Turning now to the plan, Plate 56, Page 236, showing what we consider an appropriate development, you will observe that there is contemplated the ultimate acquisition of all the uplands south of Beach Avenue which are now in private hands between Stanley Park and Burrard Street. No programme has, of course, yet been prepared for the acquisition of these lands, but it is strongly urged that the ultimate acquisition be kept constantly in view, and that if not acquired as one parcel, at any rate portions be acquired from time to time as they fall upon the market and as funds allow. The position in regard to the foreshore is, however, different, and we now approach the subject which prompted this Interim Report.

The suggestion which we now make is that the city authorities should renew in a formal manner their application to the provincial government for immediate title to all foreshore, in area shown upon the sketches which are annexed, over which the government still retains control. This application should, for the moment, cover all the beach on the north shore of English Bay from Stanley Park to Burrard Street, and all the foreshore on the south shore of False Creek or English Bay from the westerly boundary of the lands under lease from the Indian Department, which boundary is a short distance easterly of the Kitsilano Beach and thence to Kitsilano Beach. The Commission would point out that the provincial government might also be asked to reserve all foreshore from Kitsilano Beach to a junction with the University Endowment Lands, in order that there might be applied to that stretch of foreshore the same principles which the public have been assured will be adopted from the city limits around Point Grey to the Fraser River.

The Commission feels itself unable to find language sufficiently strong to adequately express its view of the importance of this matter to the City of Vancouver and to the public of British Columbia. The technical advisors of the Commission have pointed out to them very many cases on the continent where cities are spending millions to acquire from private parties lands which, not so very long ago, were in the public hands in the same manner as the foreshore now being dealt with, and the Commission will regard it as a tragedy if private interests are created which would interfere with the enjoyment of this heritage of the public of Vancouver and by the public of British Columbia who will have occasion to visit this city.

Appended hereto is a memorandum in which the respective rights of the Crown and of the public and of owners of land abutting upon the foreshore are fully discussed, and the Commission suggests that this memorandum should be submitted to the City Legal Department for verification and expansion. It is believed that it will be found to be a correct statement of the law and will serve to impress the government with the fact that it is possible to accede to the application of the city without in any way interfering with vested rights. If any restriction upon the city's occupation is desired it might possibly

be that no permanent erections are to be made on land below high water mark until the city becomes the owner of the abutting uplands. The Commission would in conclusion call attention to the public statement of the Hon. The Minister of Lands in the late government, that the question of foreshore rights was being investigated and that special consideration would be given to the case of the foreshore adjacent to large centres of population. This memorandum has gone only cursorily into the foundations upon which the conclusions have been reached, for it is considered to be a matter of public notoriety that a city of the large population which will inhabit Vancouver, even in a few years, have urgent needs for the recreational and health accommodation which will be afforded by the beaches of English Bay.

MEMORANDUM OF THE LAW RELATING TO FORESHORE RIGHTS TO ACCOMPANY INTERIM REPORT ON RECREATION AND PARKS OF THE TOWN PLANNING COMMISSION.

In view of the urgent necessity of preserving the bathing beaches adjacent to the City of Vancouver for the use and enjoyment of the public, which matter is dealt with in the Interim Report of the Town Planning Commission, it is deemed advisable to submit the following memorandum, which will serve to show that in the laying down of a public policy as to dealing with the foreshore, there is nothing in the existing law, or in the equitable principles upon which the foreshore should be administered which would in any way prevent the dedication of these lands to the public of Vancouver. In this connection it is convenient in the public interest to shortly examine what the respective rights of the several parties interested in the foreshore amount to. The Crown, in the first instance, is recognized as the owner of the foreshore, and the old offence of purpresture is committed by anybody who invades the Crown's rights. These rights of the Crown, however valuable, are subsidiary to the general rights of the public which have been recognized from time immemorial. The public has the right to use the foreshore in pursuit of its lawful occupations and no erection can be made on the foreshore, unless under statute, which might interfere with navigation without becoming a legal nuisance and liable to be abated, nor can an adjoining owner appropriate for himself any of the foreshore and bar the public from landing upon or using the same.

Subsidiary, finally, to the rights of the Crown and the public in general, are the rights of an owner abutting on the foreshore. His only practical right, apart from statute and governmental policy, is to use the foreshore as means of communication between

his land holdings and the ocean and for any purpose ancillary to the occupation of the land, which, as a member of the public, he is entitled to carry on upon the foreshore. It is true that in accordance with the well-recognized principles of justice, governments have framed and parliament has sanctioned a policy to meet the situation. Navigation rights are protected by requiring a licence from the Crown before any erections are made upon the foreshore, and all governments have recognized the prior claim of the abutting owner to obtain a licence for the use of the foreshore. This licence may be in the shape of a lease or as convenient practice may determine.

Owing to this practice, an erroneous impression has been received by abutting owners and the public in general, that, under the term of foreshore rights, an abutting owner has a claim which is superior to that of the public and is entitled, as a matter of right, to obtain a licence if he desires to erect a wharf or other improvements upon the foreshore. It is the one great object of this memorandum to draw attention to the fact that the rights of the public are supreme and paramount to any such claims of an abutting owner, and it is trusted that this state of the law is already known to the government and that its principles will be recognized in any policy which may be adopted.

The policy which it is suggested should respectfully be urged upon the attention of the government is based on these considerations, and it is pointed out that the health and well-being of a large urban community greatly depends upon these beaches being reserved for public use, and the character of such use should be a matter of grave deliberation. It is submitted that an examination of the district would readily show that the beaches are absolutely necessary as breathing spaces for the large apartment house population which will in the next few years inevitably occupy the City of Vancouver west of Burrard Street. From this point to and around False Creek, until the Kitsilano Indian Reserve is reached, is absolutely destined to be used for industrial purposes. The proper use of the Kitsilano Indian Reserve is as a recreation ground for the public of Vancouver. From that point to Point Grey the abutting land is set apart for residential and university purposes and will be occupied by a very large population. The town plans of both Point Grey and the City of Vancouver zone the lands accordingly. The same considerations, therefore, as applied to the north shore of English Bay should apply to this shore, and without further entering into details the above considerations are submitted and their adoption is suggested in the policy which the government lay down, as no private rights will be invaded by a refusal to grant to an abutting owner any licence, such rights on due examination being quite reconcilable with the devotion of the foreshore to public and park purposes.

APPENDIX IX.

PLANNING THE MUNICIPALITY OF POINT GREY

By Prof. F. E. Buck, Chairman, Point Grey Town Planning Commission.

It is a pleasing task to outline that part which the Municipality of Point Grey has taken in the town planning movement for the City of Greater Vancouver, although it can be but inadequately performed in these few pages.

HISTORY AND EARLY EFFORTS.

Point Grey as a separate municipality came into being through an amicable secession from South Vancouver on the 1st January, 1908, and it is to the credit of its first Council that a by-law was passed that first year which had in it the germs of the modern science of town planning. During its brief existence of 21 years, the Municipality has undergone great transformations, and its Councils have enacted many far-sighted and wise by-laws. Among these none were fraught with more vital significance for the wellbeing of its citizens and the preservation of its natural advantages and beauty than those which were enacted for the purpose of developing the Municipality along the paths of efficiency, economy and beauty.

VISIONS OF THE EARLY PIONEERS FULLY REALIZED.

Among the statements made on the occasion of the birth of Point Grey two are worthy of recording here. The morning "*News Advertiser*" of that day said:

"In many particulars the municipality enters on its corporate career with unusual advantages. It includes a tract of land on its northern boundary that is likely in the course of the next few years to become the most attractive suburb of Vancouver."

The first Reeve, S. L. Howe, now a member of the Legislative Assembly for Richmond-Point Grey, was elected with a majority of 40 by a voting population of that day consisting of not more than 70 persons. He said in his inaugural address to the first Council:

"The importance of the municipality which we have the honor to represent, as the first Council, would be hard to overestimate, lying, as it does, alongside the great City of Vancouver, which is destined to become the Liverpool of Canada and the metropolis of the Canadian Pacific coast for all time to come, and whose fast-growing population will soon overflow her boundaries and quickly convert this municipality into a thickly-settled and *most beautiful residential district*."

"Nature has been kind to this municipality and blessed it with much natural beauty that it would be hard to find its equal on the American Continent, situate, as it is, and bounded by the City of Vancouver and the beautiful waters of English Bay; not forgetting the mighty Fraser River, which flows along our southern boundary, with its untold shipping, manufacturing and industrial possibilities."

"We have, therefore, many reasons to be proud of the Municipality of Point Grey, and I hope that we may so lay its foundation that the structure may go on and on from year to year carrying to completion a policy that will meet its needs and requirements of the present as well as the future generations."

These visions are now, possibly, more than realized.

During the succeeding years, and until 1922, the various Councils insistently held to the idea that they were put into office to carry into effect the ideals held by the residents that Point Grey was to be developed essentially as "a first-class residential district" for the growing and progressive adjoining city, and with its coming of age the municipality had most of its thirteen square miles of forests and stumps changed into what has been often described as "one of the most outstanding and desirable residential districts in Canada."

A UNIQUE DISTINCTION.

In 1922 these ideas crystallized into the form of a zoning by-law, known as "Town Planning By-law No. 44, 1922." This by-law gave Point Grey the unique distinction of being the first of the municipalities and towns throughout Canada to adopt a zoning ordinance as part of a definite town planning policy.

RECENT PROGRESS.

THE BY-LAW OF 1926.

After the passing of the provincial Act of 1925, the next logical step taken by the Council of that year was to pass a by-law in order that complete town planning policies might fully prevail throughout the municipality. This by-law, entitled "A By-law to Create a Commission to be Known as the Point Grey Town Planning Commission," was passed by the Council on the 9th of March, 1926. The Point Grey Commission was then appointed, with the following personnel:

Ex-Officio Members:

J. A. Paton, Reeve of the Municipality; Warner Loat, Chairman of the Parks and Plans Committee; and W. B. Tullidge, Chairman of the School Board.

Appointed Members:

Mrs. R. P. Steeves; Professor F. E. Buck (Chairman); John Elliott; Newton J. Ker; F. J. McCleery; and G. L. Thornton Sharp.

Corresponding Secretary:

Hector S. Cowper.

Such by-laws as these served, in no uncertain way, to implement the ideals held by the residents that their municipality was to be one in which the best type of home could not only be built, but also adequately safeguarded from the encroachments of undesirable types of development. That the quality and type of dwelling within the municipality at the present time is of a very high order is indicated by the study of the "dwelling permits" over a five-year period. The average cost of residences over such a period, these "permits" show, was in excess of \$4,100. At the present time over ninety per cent. of the municipality is zoned for one-family dwelling districts. Point Grey has no slum district.

Immediately after its appointment the Point Grey Commission laid out its definite programme of work, which has at all times been carried out in close co-operation with the City Commission. Numerous joint meetings of the two Commissions and their respective committees have been held. In the summer of 1926 the firm of Harland Bartholomew and Associates was engaged as consultants by both Commissions, and the same year the Commission engaged the services of Mr. John Elliott, as local engineer, who has prepared many valuable plans dealing with entirely local problems. Many committees have been appointed to deal with the various phases of Town Planning. These committees are as follows:

Major Streets, Zoning, Civic Art, Transportation, and Recreation.

Apart from the various meetings held by these committees, the Commission has had 71 sessions. The changes in the personnel of the Commission are as follows:

Reeve W. H. Lembke succeeded Reeve J. A. Paton. Councillor Thos. Bate succeeded Councillor Warner Loat as Chairman of the Parks and Plans Committee, and Stirling Ross succeeded W. B. Tullidge as Chairman of the School Board. Mr. John Elliott, who resigned to take up his duties as local engineer to the Commission, was succeeded by Mr.

Howard C. Green; and Mr. F. J. McCleery, who retired, was succeeded by Mr. Gordon K. Towers, who also retired, being succeeded by Mr. B. A. Cunliffe.

The definite results of the work of the Commission are briefly set out hereunder:

ZONING BY-LAW.

The recommendation of the Commission as to the boundaries of the various districts and appropriate regulations to be enforced in a zoning by-law were finally forwarded to the Council in September, 1927. On the basis of these recommendations a zoning by-law was introduced into the Council, and a public hearing thereon was held by the Council on the 12th October, 1927. The by-law was actually passed on the 24th October, 1927, and, upon its registration the following day, became law, and has since been the governing factor in maintaining the municipality as "a first-class residential district."

MAJOR STREET PLAN.

The Major Street Plan was first presented in a preliminary form to the Council in November, 1927, when they sat in joint session with the Commission, by Mr. Earl O. Mills, of the firm of Harland Bartholomew and Associates. It was not, however, presented in its final form until August, 1928. This plan has not as yet received the formal approval of the Council, but it is pleasing to note that it is recognized as a governing factor when dealing in matters related thereto.

RECREATION.

The recommendations of the Commission relating to Parks and Recreation were presented to the Council in November, 1928, and while as yet they have not been adopted in their entirety, a number of the recommendations have been acted upon, the Council having set aside for park purposes several acres of land which had been acquired at tax sale or in lieu of taxes.

The Commission have recognized that the transportation phase of Town Planning is one that cannot be dealt with except in conjunction with the city, and in view of the amalgamation of the two municipalities this has been left entirely to the city Commission.

WORK IN CONTEMPLATION.

Work that the Commission have had in contemplation, but which has not yet been commenced, is as follows:

- (a) Definite plans for suggested park development. It was the intention of the Commission to have made comprehensive plans for the development of each park, so that work

thereon could be carried out progressively, so that the results would be a system of parks and recreation grounds most pleasing to the residents.

- (b) Tree planting and maintenance of boulevards. It was also the intention of the Commission to have taken a census of the existing trees and made recommendations as to a definite policy of tree planting, and submitting a scheme for the proper maintenance of the boulevard.

CONCLUSION.

The Chairman of the Vancouver Commission made a statement to the effect that the fundamental purpose of town planning is *to assign a use to every acre of ground. A large share of Point Grey's many acres have been assigned for "residential uses,"* as already stressed. This has been effected by the zoning by-law. In studying that complicated modern problem of transportation and street traffic, the Commissioners were impressed with the fact that that "law of uses" holds equally true in other Town Planning matters. To take a specific case of street widening, the strips of land a few feet wide, now required for widening purposes, which a few years ago should have been and might have been designated for "roadway widening" through the village of Kerrisdale are now incorrectly used and occupied by stores. This already militates against the proper development of this village as a shopping district, and will slow down traffic still more than it does now, and will eventually necessitate a greater loss to the city when the widening is undertaken than if it had been undertaken at the proper time. A proper plan which the Commission has endeavoured to formulate prevents such mistakes by assigning a *use for every square foot of ground* under these circumstances, which may result in great savings to the community.

The recommendations of the Commission with regard to street widenings and street changes are logical and defensible, and the statement of an eminent authority on this subject is worth quoting: "Certain reasonable standards of street widths must be established, and the increased traffic streams of humanity must be made to use thoroughfares of these widths in the manner most efficient and beneficial to the community."

Finally, the public will grow to appreciate the recommendations of the Commission as it realizes more fully the truth of Mr. John Burns' statement, who said: "Investment in a good plan, whether it be for the new parts of the city or for the correction of older parts, if regarded for the period of a year, may appear expensive; if considered for the period of five years it would appear profitable; when considered for a period of fifty years it will be an investment which in subsequent days *will make the community regret that it did not adopt it sooner.*"

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